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ABSTRACT

Teacher education reform legislation in Mississippi was put into effect in 1985, concurrent with the planning year of this project which developed a prototype for automated evaluation of teachers' performance. This automated system of information management was designed in response to requests for demographic program information from governing agencies coupled with a concern for awareness of student progress in the program. A performance-based teacher certification system was instituted statewide which motivated numerous changes in the professional preparation program. A key component of the project was a process standard requiring training to a common teaching evaluation model for university and public school teachers involved with the student teaching experience. To govern progress in the program as well as stimulate retention of key information, a quality assurance program was structured around an automated approach for performance monitoring. This report discusses the rationale for developing the program, details its evolution, and provides a description of the program. Included in the report, in addition to the project portrayal, is a detailed program assessment report and a practice profile. (JD)

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Project Portrayal

Prototype for Automated Teacher Performance Assessment

OERI Contract #400-85-1064

Dr. James A Siders
Project Director

U.S. DEPARTMENT OF EDUCATION
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Project Portrayal
Prototype for Automated Teachers Performance
OERI CONTRACT #400-85-1064
University of Southern Mississippi

Project Description and Evolution

Teacher education reform legislature in Mississippi was put into effect in 1985, concurrent with the planning year of this project. In response to repeated requests for demographic program information from governing agencies coupled with a concern for awareness of student progress in the program, an automated system of information management was designed. This activity was implemented simultaneously with the revision of the teacher education program. A performance based teacher certification system was instituted state-wide which motivated numerous changes to this professional program. The magnitude of the many changes resulting from legislative reform encouraged the collaboration among the public schools, institutions of higher education, and State Department of Education. Improvement in the quality of education at all levels in this state has occurred.

A new system of program governance, established by the State Department of Education, was instrumental in the collaborative developments and activities which helped structure changes in this program. In fact, a process standard requiring training to a common teaching evaluation model for university and public school teachers involved in the student teaching experience, was a key component of this project. Collaborators from the public schools and the university were all trained to a criterion in the use of the Mississippi Teacher Assessment Instruments (MTAI,1987), an evaluative model of beginning teacher

effectiveness. Training in this model established a common perspective of the teaching practice, a curriculum revision was initiated to upgrade and systematize the professional education knowledge base in teacher education. A system of quality assurance of student competency development was put in place to establish a developmental knowledge sequence and separate components of the professional program. Embedded comprehensive exams were instituted at strategic periods in this professional program to govern progress in the program as well as stimulate retention of key information. The quality assurance program was structured around an automated approach for performance monitoring. Various elements of the program were structured around data collection and processing considerations to sophisticate and promote a teacher education database. Finally, the project supported research activity to determine the efficacy of the MTAI, one performance based model of teacher effectiveness.

The collaborators in this program from the public schools ultimately included ninety school teachers and administrators from five districts in the immediate vicinity of the university. Sixty university faculty were involved in the project at varying degrees of responsibility. Two hundred teacher education students have been evaluated and instructed in the new professional program in the past two years. The project administration staff consisted of four individuals: (a) a director, (b) research coordinator, (c) computer programmer, and (d) university administrator.

Four aspects of the program will be reported over the course of this three year project: planning, development, implementation, and evaluative activity. Planning activities during year 1 involved one-third of the collaborators, the project director, and computer programmer. In order to establish a common knowledge base for subsequent development in this program, twenty university faculty and thirty public school teachers and administrators were trained in the use of the MTAI during the first year. The two collaborative groups were separated for different aspects of the curriculum redesign. Public school teachers and administrators were given an opportunity, based on suggested practices in the literature, to arrive at suggestions and considerations which would apply to modification of this professional program.

Simultaneously, university faculty engaged in an analysis of the depth of coverage of the traditional teacher education program as related to the performance measures in the MTAI and clusters of knowledge on the National Teacher Examination (1987). The computer programmer and project director assumed the responsibility to devise the most efficient means to record student information relative to progress in the teacher education program.

The thirty public school collaborators and the project director then set about the task of determining an implementation plan for the final two years of the project. Retention checks, comprehensive examinations of key components of a four course stage of this program, were the first concerns of the

developmental phase of this project. Public school collaborators and university faculty teaching core courses were responsible for developing a testbank reflecting the knowledge base of the professional program. The computer programmer and project director cooperatively set about the goal of developing a system to automatically regulate student progress in the program, based on performance at designated checkpoints in the program.

Implementation activity focused extensively on increasing collaborative membership specifically from the public schools. Each year thirty new school teachers were trained to criteria in the MTAI and given opportunities to suggest further revisions of the professional core. Additional training was provided university faculty new to the campus or unfamiliar with the MTAI. Adjustments to courses in the professional program were conducted on a continuing basis. Information reflecting student performance in the program was provided to the faculty in order to substantiate areas in the program in need of revision. The research coordinator was called upon to validate the exam content and determine independent item difficulties which lead to the determination of minimum performance standards for the retention checks. As each stage of the program was developed and different aspects of the project were put into place, the computer programmer was required to continuously extend and refine the computer program driving the automated monitoring system.

Evaluation of the program and project began in year 2 and culminated with this report. During year 2, students completing the first stage of coursework (12 credits hours, 4 courses) were

submitted to a knowledge retention check on information cued to the redesigned professional education curriculum. Information on student performance on this measure has been reviewed periodically throughout the second and third year of this program. Parallel to the retention checks and the redesigned curriculum, a study of faculty and student perceptions was conducted during years 2 and 3. Comparisons were made between faculty and students with respect to the targeted level of coverage and nature of instruction assigned to each of the core courses.

The second stage performance review was instituted in year 3. This measure escalated the demand on the student from pure knowledge review to an application of teacher effectiveness considerations as presented in standardized videotapes of teaching performance and lesson plans. During the third year of the program, the Mississippi Teacher Assessment Instruments model provided standardized student teaching requirements for this exiting stage of the program. An analysis of the total program was also conducted in the latter part of year 3 to determine the distinction of the knowledge base, instructional practice, and learning activities characteristic of this program.

Major Issues

The performance based nature of this program established a rather controversial basis for all developments in the project. In essence, the general purpose of the project was to provide an empirical review of one particular performance-based approach to

teaching. The need for reform in education in Mississippi is critical and efforts to provide a positive and consistent identity with teacher education led to the use of this performance based evaluation system. However, the philosophy supporting this particular performance assessment system has not been universally received by the university faculty or public school teachers. Some individuals exposed to the system and involved in this project intuitively rejected the practice prior to any application with students. Several concerns developed with this application of the MTAI for curriculum revision purposes. Initial plans focused on use of the system at a level of performance indicators. Forty-two indicators of performance support assessment of fourteen performance competencies within three separate instruments. Following the first year of activity, the focus of the project with respect to the MTAI shifted from the indicator level measurement to more general measures of the fourteen MTAI competencies. This adjustment was made when the data at the level of indicator performance was determined to lack the robust qualities necessary to discriminate the many different features in this program (i.e., unacceptable performance in lesson planning was not clearly distinguished from acceptable minimum effectiveness practices in lesson planning). The decision to review performance at the competency level provided more variability in staging performance per student and allowed different performance traits to emerge for different stages of the program.

Outcomes of this project, even with submission of the final draft, are tentative. Some of the findings remain inconclusive, and suggest that many developments may occur during the fourth year which can significantly impact teacher education.

Collaborative activity in this project has been fundamental to a much higher regard for teacher education and teaching as a profession. One collaborative practice allowed the public school teacher to make suggestions for improvements to the teacher preparation program. The interaction and exposure to one another in this project also improved relations between personnel in the public school and the university. A higher regard has also become more evident across the university campus. Practices are now in place which may improve the perception of our university colleagues even further.

The utility of the automated monitor of teacher preparation is best noted by making a multitude of information more manageable. A history of cumbersome requests for manpower forecasts, program characteristics, and graduate follow-ups were virtually impossible to perform. Forecasting the university's contribution to the manpower needs of this state is now a reality; this system also projects manpower needs within campus. Information management also contributes to the design and sequencing of other aspects of the curriculum. The theme of changes legislated years ago have been condensed to an institutions capacity to demonstrate compliance with a series of process or performance standards reflecting the effectiveness of a teacher preparation program. With this system in place,

longitudinal reviews are made more available which promise to extend improvements. Changes need the continued reaction and attention of students. Performance patterns of graduates must be integrated into future adjustments to this professional program.

Another major issue relative to this program was the review of instructional practices as perceived by students. This feature of the project was added after the first year of planning and development activity requiring adjustments to be made to the project. Reviewing courses based on learning activities and information sources helped contrast and distinguish initial and medial stages of instruction within the program. Information is reviewed in the Program Assessment Report emphasizing the need for progressively greater involvement of students in the instructional process of a quality teacher education program. Students responding to the instrument reported that as the professional sequence unfolded, greater peer interaction occurred in place of faculty instruction. Guided laboratory activities became more meaningful as supported by knowledge acquired during the initial stages of instruction. Students provided little qualitative reaction to the program which may suggest marginal comprehension of some the measures instituted in the program. At this phase of study, additional time is needed for the student population to achieve a closer identity to the substantive changes made in this curriculum.

Major Outcomes

Numerous products have emerged from this investigation. The curriculum design process provided a consistency and structure to systematically identify strengths, weaknesses, and redundancies in an existing program. The process was also capable of providing a direction to remedy flaws in the traditional program. Continued attention to the curriculum design process will be made available by the second outcome, a data collection system.

Coding sheets to gather student responses or record observations of student performance at different stages of the program were fundamental to the entire investigation. Coding information in this manner allows for more precision in data collection, more comprehensive review of the program, and facilitates longitudinal review of program activities.

Another outcome of the program was the integration of a sequence of instruction. The initial stage of instruction consists of four courses to promote knowledge acquisition of the program philosophy. The second stage provides structured opportunities to use the knowledge in teaching situations. Guided laboratory experiences and supervisory feedback are available to foster desired teacher competencies. The exiting stage includes student teaching and a related professional development seminar confirming the desired teaching behaviors.

A fourth outcome of the project is the teacher education data base, which regulates registration in different stages of the program. Prerequisite knowledge is periodically diagnosed to ensure success in higher order situations. All aspects of this

database are united through a comprehensive computer program. Computerized features begin with the input of admissions information, continue to retention checks of different components of the program, and culminate with the computer analysis of student teaching observation. This multitude of information is analyzed and submitted to a report format that can be use to determine the development of critical teaching skills from one student to another, as well as highlight components of the program which appear to be in need of further development. In the event that difficulty is experienced by a particular student, notice is sent to the student for corrective action.

A teaching handbook describing certification policy was recently developed and disseminated to the university faculty involved in this program as well as superintendents of thirty school districts supporting student teaching activity in the public schools. Collaboration on public policy began with public school teachers and administrators, resulting in the handbook. Instruction continues with public school input on student performance during the student teaching experience in addition to constructive feedback of the certification manual.

Implications For Other Institutions

The overriding benefit to other programs which can be derived from this project deals with the change process. This project provides a framework to assess the state of the art in planning for program redesign. The various ingredients of this program providing performance measures and program review help regulate the change process maximizing effect. Many activities

were altered during the three year process and other features may be abandoned in favor of new methods. A great deal of insight can be gained from sharing the experiences from this program.

A second consideration for other institutions to make is with the use of a common philosophy and/or theme in program redesign. The National Teacher Examination and the Mississippi Teacher Assessment Instruments were mandated and imposed upon this program and provided a natural basis to focus program adjustments. Mandated performance standards from six years ago may not be the best focus of new program redesigns, but continuity has been gained within this program and a direction for future developments is readily evident. The new NCATE standards support operationalizing a knowledge base per institution. These two program measures promote a knowledge base in this instance.

Many programs have reacted and reconsidered their approach to teacher education due to reports from the Holmes Group (1986) and Carnegie Commission (1986). Four year training programs have been under attack constantly for the past three years. This project was implemented through a four year teacher education program and evidence exists which suggest this particular four year model is a viable approach to teacher preparation. Information from the fourth and fifth year of this project, which will occur without funding, will be disseminated through publication and should be of interest to many programs throughout the United States. Adjustments will continue to occur, but a

commitment has been made to maintain a four-year, preservice preparation model.

Computer tracking and program regulation was an integral part of this project. Making best use of technology and advancements will provide for meaningful, longitudinal review of program effectiveness in a way that has not been available before. These reviews, based upon quantifiable information, will be used for subsequent program revisions and advancements within the profession. In fact, information from this program may ultimately be used for constructive reviews of performance based evaluation models for beginning teachers.

The design of quality assurance measures in this program may also be of interest to other programs. Students have reacted in a mixed fashion to the different measures used to confirm mastery of their teaching competence throughout this teaching program. Many students have confused the externally imposed changes in program requirements with this quality assurance system. The assurance system has worked in two directions: with respect to individual student competence as well as the quality of program offerings. Major changes have been made to key courses within this program as a result of the quality assurance model.

Institutionalized Features of the Project

External funds supporting this endeavor were primarily used for planning and development costs and related activities. Five distinct features of this project have become mainstays of the teacher education program through this redesign. The automated collection, entry, and analysis of data, as developed in this

project, has become a central component to the teacher education program. The necessity of information management and the efficiency demonstrated through this automated system has supported purchase of a new optical scanning unit with a greater capacity to receive information. The upgraded equipment will also limit costs associated with data response formatting and design. The application demonstrated in this project has led to a series of parallel considerations for other aspects of the teacher education program.

Curriculum review is a second feature of the program which will continue for the foreseeable future. The curriculum review process was positively received by the faculty until actual implementation of changes transpired. Faculty rather naively entered into the review process as a professional education group. No one had really submitted to such a process previously and consequently knew neither the process nor its outcomes. The faculty now sense the reality and permanence of the review. The program has changed and faculty are now committed to making the model work. The curriculum has been adjusted to the point where suggestions are now emerging from faculty - in contrast to a college administration driving the process as was necessary during this project.

Retention checks were established at two points in the professional sequence of this program. Information from these sources has been used to constructively review the teacher education program and has supported continued change and revision. Students have become more responsible with respect to

the knowledge base of this program as a result of these opportunities to demonstrate their competence. Efforts now focus on making these reviews less obtrusive than is presently evident in the program.

Collaboration with the public schools is a fourth feature that not only will continue, but hopefully increase. The intent, following completion of this funded investigation, is to achieve a sense of collaborative interaction outside the university, where it seems to have stopped. Collaboration, thus far, was created by legislative mandate. The infrastructure of this program, and the teaching profession as it extends from this campus, is concrete. The philosophy is still new and is regarded as a raw and underdeveloped approach to teacher preparation. Some misunderstandings within and out of the university still need to be overcome with respect to the intent and requirements of this program. Greater awareness and understanding will be beneficial to all aspects of the university as well as to constituents in the community; public school teachers, administrators, and parents. Dissemination of the database philosophy and system will support the needed growth and understanding of program goals.

Finally, the research model has become an institutionalized factor of the University of Southern Mississippi teacher preparation program. This model was developed in components. Modular design is useful after a prototype has been tested, improved upon, and working. However, this system, as is evident

in the title, provides a prototype. It is a beginning, it is in its inception, and it must now work. Continued use and refinement is required and should be expected. The model and philosophy of this project is integral to the college administration. The knowledge base and philosophy inherent in the model have been recognized by the faculty, but require an additional period of incubation if the system is to evolve into a unit practice fully embraced by the entire faculty and student population.

Overall Strengths and Weaknesses and "Lessons Learned"

Stumbling blocks and obstacles have been encountered throughout the three years of administration of this project. The first difficulty encountered was with the public school collaborators. Presently, incentives for public school teachers to interact with teacher preparation programs are limited with relation to the public school teacher. In a large part, public school teachers became involved in this project out of professional goodwill. In fact, a budget revision was made necessary during the first year and budgetary considerations existed in second and third year funds devoting external funds for teacher stipends and substitute pay allowances promoting collaboration. Education reform has been enacted with regard to all program levels throughout this state. Demands have been great on all educators. Attention must now be paid to create a positive environment for interaction between teacher educators and teacher practitioners.

A universally accepted philosophy of education will quite likely never occur among all constituents of this program. However, a more universally accepted knowledge base would have made a difference in the time and effort required to put this program redesign in place. The knowledge base founding this program was in response to a statewide legislated mandate. The model was imposed upon this program and quite possibly created resistance to the change process. Either providing additional time for articulation of a unit philosophy or extending the period to implement the program may have achieved a better sense of unity and expedited activity in the long run.

A related concern and lesson learned of this program is with the need to empower all faculty involved in the program. As was reported earlier, the mandated nature of this program knowledge base robbed the faculty of an opportunity to create ownership. The mandates required intervention from the college administration in order to achieve changes. Programs exploring redesign should consider faculty input and a bottom up design for change.

If the opportunity existed to start over, another component of the program requiring earlier and more extensive consideration, is with the student population. The comprehensive nature of this project strained communications at all levels. The immediacy of the legislative model detracted from many opportunities to provide early notice; in some instances changes were affected before students were provided opportunity to be made aware of adjustments. The student population is gradually

adjusting to the redesign, but present compliance appears to be due to necessity. Greater student awareness, possibly greater student input during initial program stages, may have provided a sense of unity earlier than will be anticipated with the present circumstances surrounding this program.

A total program configuration represents another concern of the change process. This program presently exists in three distinct and largely separate components. A general univecurriculum is required of each teacher education major and contributes to a student's admissibility to the professional program. Once admitted to the teacher preparation program, the professional sequence, as redesigned, is viewed as a second component of the preparation sequence. Finally, specialty studies leading to the definition of particular certificate concerns are pursued under departmental advisement. As the program presently exists, these components lack a sense of interconnectedness. The general core has been influenced largely by design from the university community. The professional sequence is regarded by most as a product of the college administration. Specialty studies have been articulated by the different departments throughout campus. The different pieces of the puzzle were constructed independent from one another, and consequently, now constitute a whole requiring further study before instruction will become synchronized.

Significant strides have been made over the past three years. Many professional activities have transpired. With the close of the project, changes must now be allowed universal

acceptance. The transformation of this program has occurred on paper and the construction phase has been completed. Total institutionalization of these project elements require time. The immediacy of the change process required more administrative input than will ultimately be necessary. A healthy professional prospective will now be allowed to develop as governance of the program features and further developments are extended to the university faculty for their input and continued development.

Products and Dissemination Activities

Four different products have been developed for dissemination of this project. A videotaped overview of this program as been used to orient constituent groups throughout the state. This video production has been presented to advisors and administrators of the sixteen junior and community colleges throughout Mississippi. A certification commission has been exposed to the program by viewing this presentation. University administrators have been educated to developments in this program using the videotape. Students and faculty groups have also been updated on the changes and developments of this program via this product. The reception to this media overview has been positive and copies have been made available for review and additional presentation by the different agents.

A series of professional papers have been delivered over the past three years to both regional and national audiences. During the first year of the project, the research redesign was presented to audiences at the Mid-South Educational Research Association (Schnur, Siders, and Cooley, 1985). An update on

features of the program that have been implemented was provided participants at the National Council of States on In-service Education (Siders, Richmond, Schnur, 1986) focusing specifically on the information management system. The system was presented to the Association of Teacher Educators in Houston (Schnur, Siders, and Cooley 1987) with particular attention provided the student teaching experience. The information management system and the various report formats extending from this project were presented at the summer workshop of the Association of Teacher Educators (Schnur and Siders, 1987) in Buffalo, New York. Kazelskis, Siders, Richmond, and Schnur (1987) provided an overview of the comprehensive retention checks with specific attention to establishing standards of performance at the Biloxi conference of the Mid-South Educational Research Association. Two papers were presented in San Diego at the annual conference of the Association of Teacher Educators in 1988. The first of these San Diego papers dealt with quality assurance measures built into the program reflecting student performance at graduation (Schnur and Siders, 1988). The second presentation was in conjunction with five other programs supported by the Office of Research and Improvement dealing with change documentation and outcomes analysis related to this program (Siders and Schnur 1988). Finally, the Association for Supervision and Curriculum Development conference was addressed regarding the collaborative nature of this project (Grace, et al, 1988) at its annual conference in Boston.

One article has been published (Schnur, Siders, and Richmond, 1987) reviewing the knowledge base of the professional education program. Two other manuscripts are being developed. Both the papers and publications have been favorably received, even though all reflect the formative stages of this project. Future presentations and manuscripts should prove valuable once the project has had an opportunity to integrate the professional program to the student population and throughout the faculty.

Possibly the most valuable and most favorably received product for dissemination has recently been completed. The University of Southern Mississippi Handbook and Guideline to Teacher Certification was distributed to deans, chairs, and advisors from the respective departments throughout campus involved in the teacher education program. This handbook was also shared with thirty area school district superintendents before the end of summer, 1988, with the request for continued collaboration and constructive review of the program and graduates. Plans are being made for junior colleges to be presented a copy of the handbook at an October conference of the community colleges and universities in Mississippi.

In summary, the videotape and handbook providing overview of this teacher education program have been the most effective means to promote project ideals. The support of these documents has been quite favorable and has extended from the individuals having most direct contact with the program. The foundation for further developments has been established and nurtured. Specific and conclusive empirical review of this project has not been

available. The philosophy and knowledge base of the program has been endorsed by all audiences. The fourth and subsequent years of this project revision are anticipated to result in more specific responses.

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Practice Profile

Prototype for Automated Teacher
Performance Assessment

OERI Contract #400-85-1064

Dr. James A. Siders
Project Director

September, 1988

September, 1988
Practice Profile
University of Southern Mississippi
Contract #400-85-1064
Prototype for Automated Teacher Performance Assessment

I. PROJECT DEMOGRAPHICS

Student Characteristics: (Cohort Size, Qualification, etc.)
Two-hundred-fifty (250) having passed COMP Exam; 2.5+ GPA on restricted core.

Teacher Characteristics: (No. of University faculty involved and their fields; no. of classroom teachers and their grade levels)

University:	LEA teachers:
10 Education & Psychology	60 elementary
2 Science & Technology	40 secondary
3 Liberal Arts	20 special subjects
6 special subjects	

School/District Characteristics: (No. of districts and schools involved; size and location of districts/schools)
5 districts, 27 schools
Forrest County districts range from 3,000 450
Lamar District: 1200

Program Characteristics: (Level, Program Orientation, etc.)
Undergraduate teacher education program partitioned into Basic, Advanced, and Recital stages. Key characteristics is automated system of documenting program outcomes.

II. IMPLEMENTATION REQUIREMENTS

Costs: $170,000 total budget over 3 years.

Training: Participants required training in the use of the Mississippi Teacher Assessment Instruments in order to integrate the system. Optical Code sheet design skills are necessary. Programming of computer for data analyses and reporting.

Materials/Equipment:
SCANTRON 1200 Optical Code Reader
Mainframe computer
MS-DOS compatible personal computer
SPSS-X Software

Personnel:
Project director, computer programmer, research analyst, 21 university faculty, 120 public school teachers.

Organizational Arrangements:

Project Director

LEA teachers | university faculty | computer programmer | research analyst

September, 1988
Practice Profile
University of Southern Mississippi
Contract # 400-85-1064

I. Organizing and Maintaining Partnerships:

A. Component: University Faculty and Public School Collaborative:

IDEAL	ACCEPTABLE	UNACCEPTABLE
a. Role preparation and setting climate:		
University and Public School collaborators cooperatively received training in the MTAI* to certified evaluator status and were briefed on the nature of the project and desired outcomes.	University and Public School Collaborators received training in the MTAI and completed responsibilities as two unique groups.	Collaborators received only training in the MTAI*. Trainees do not have an opportunity to contribute to project outcomes. or Collaborators fail to meet MTAI criteria as an evaluator.
b. Program development task:		
Collaborators are presented with five key responsibilities for involvement: 1. training to model 2. conduct literature review 3. review existing program 4. suggest curriculum redesign 5. establish an implementation plan for years 2 & 3.	Collaborators received a list of program goals and consent to portions of the responsibilities.	Collaborative members were informed of their responsibilities and decided not to participate.

* The MTAI is the Mississippi Teacher Assessment Instruments, evaluation model of entry level teacher effectiveness mandated for use by the Mississippi State Department of Education.

I. Organizing and Maintaining Partnerships:

A. Component: University Faculty and Public School Collaborative:

IDEAL	ACCEPTABLE	UNACCEPTABLE
c. Role responsibilities		
University faculty reviewed existing instructional practices and curriculum for discrepancies in presentation of MTAI indicators and NTE standards.	University faculty review curriculum but ignore MTAI and/or NTE standards.	University faculty do not contribute to curriculum review.
University faculty adjust instruction to specified levels accommodating MTAI/NTE discrepancies.	University faculty ignore curriculum discrepancies and let student performance dictate adjustments.	University faculty ignore curriculum discrepancies and teach traditional content.
University faculty adjust evaluate, collect, and transmit student performance data to an automated monitor system.	University faculty are aware of monitor system but fail to either evaluate or collect and transmit student performance data.	University faculty ignore monitor system and student performance data.

II. Instructional Content:

A. Component: Content Assignment Matrix:

a. Nature/choice of content:

IDEAL	ACCEPTABLE	UNACCEPTABLE
Content Indicators are distributed throughout the courses. Appropriate levels of instruction are reflected in the progressive presentation of pedagogy (i.e. knowledge level acquisition) for first level; guided laboratory experience (role playing; peer teaching) during second level; classroom performance during student teaching for third level.	Content is theoretical in nature at first and second level with some reflection on practice at latter stage.	Formative review of student performance is not recognized in delivery of instruction.

b. Use of Content:

IDEAL	ACCEPTABLE	UNACCEPTABLE
Instruction content becomes increasingly more sophisticated from Stage 1 to Stage 2 to Stage 3 instruction.	Content preparation is unique from Stage 1 to Stage 2 but somewhat redundant to Stage 3 in relation to pre-requisite knowledge base.	No distinction in content is present among any of three levels of instruction.

II. Instructional Content:

A. Component: Content Assignment Matrix:

IDEAL	ACCEPTABLE	UNACCEPTABLE
c. Instruction materials:		
Initial level of instruction is founded in lecture reflecting contemporary research from professional literature, supplemented with audiovisual presentation and controlled student reaction to case studies.	Initial level of instruction is founded in lecture reflecting contemporary research from professional literature.	Initial level of instruction reflects pure lecture, passive student responsibility and traditional content as presented prior to curriculum revision.
Second level of instruction requires increased student responsibility through role-playing, peer teaching, and microteaching. Instruction requires controlled presentation of practice teaching encounters (behavior problems, instructional diversification, unique student needs) and promotion of working knowledge of MTAI as an evaluation paradigm.	Second level of instruction requires increased student responsibility through role-playing and promotion of a working knowledge of the MTAI as an evaluation paradigm.	Second level of instruction includes methods of instruction course without guided laboratory activity. Presentation of the MTAI evaluation is non-existent.
Exit level instruction requires student performance during student teaching. A student teaching seminar presents individualized instruction addressing deficiencies in MTAI ratings. Feedback should incorporate videotaping and self-evaluation followed by prescribed readings.	Exit level instruction requires student performance during student teaching. A student teaching seminar is structured around MTAI deficits determined by supervisor observation.	Exit level instruction requires student performance during student teaching. Supervisors base observation on model unique to MTAI. A student teaching seminar is not related to student needs and exists largely from predetermined content.

III. Instructional Processes: Revised instructional roles for teachers, instructors, and student teaching supervisors.

A. Component: Collaborative Teacher Role

IDEAL	ACCEPTABLE	UNACCEPTABLE
a. Responsibilities:		
Public School Collaborator assesses student teacher performance using MTAI standards during student teaching experience and bases instructional interaction on MTAI review.	Classroom teacher conducts MTAI review during student teaching experience, but does not integrate student performance measures into instructional interaction with student.	MTAI is not used for student teacher assessment during student teaching experience.
b. Pre-service model (vis a vis student teacher)		
Public school collaborators receive evaluator training, host student teachers, and report suggestions for teacher education redesign.	Evaluator training status leads to role of student teaching coordinator. No redesign suggestions are forwarded to university faculty.	Public school collaborator receives training but does not achieve evaluator status and is not eligible to host student teachers.
c. Organizational arrangements logistics:		
Classroom cooperating teacher receives planning period to provide formative feedback to student teachers.	Classroom cooperating teacher provides formative feedback to student teachers as an added responsibility.	Classroom teacher is not involved in feedback to the student.

III. Instructional Processes: Revised instructional roles for teachers, instructors, and student teaching supervisors.

B. Component: University Instructor:

IDEAL	ACCEPTABLE	UNACCEPTABLE
Student Teaching Seminar begins with 3 day workshop followed by needs-based, instructional sessions structured around MTAI deficits.	Student teaching seminar instructor provides intensive instruction during semester from pre-determined sequence.	Student teaching seminar instructor does not pre-determine sequence or consider MTAI performance in delivery of instruction.

C. Component: Student Teaching** Supervisor

University faculty conduct MTAI reviews at the third, fifth and seventh week of each student teaching experience and forward observations to Director of Student Teaching within 2 days of observation.	University faculty conduct MTAI reviews at the third, fifth, and seventh weeks of each student teaching experience and forward observations to Director of Student Teaching within 1 week of observation.	University faculty either do not conduct assessment based on MTAI or do not forward materials in a timely fashion.

** Student teaching semesters consist of two, unique eight-week experiences.

IV. Student Evaluation Processes

A1. Component: Assessment Tools: Embedded Knowledge Retention Examination

IDEAL	ACCEPTABLE	UNACCEPTABLE
Examination items are developed for each performance indicator per course.	Examination items are developed for each performance indicator per curriculum stage.	Examination items are absent for any performance indicator per curriculum stage.
Sufficient numbers (15) of exam items are compiled per competency by clustering item indicators.	Minimum numbers (7) of performance exam items are compiled per competency by clustering item indicators.	Less than seven exam items are compiled per performance competency or item indicators are disproportionately clustered.
Test validation studies have been conducted and item difficulty indices are assigned each item.	Test validation studies have been conducted and item difficulty indices are assigned each item.	Test validation studies have been conducted for portions of the test item bank.

IV. Student Evaluation Processes

A2. Component: Assessment Tools: Embedded Knowledge Retention Examination

IDEAL	ACCEPTABLE	UNACCEPTABLE
Computer scored response sheets are used to record and enter student examination responses into a computer bank.	Computer scored response sheets are used to record and enter student examination responses into a computer bank.	Student examination responses require hand scoring and duplicate processing to achieve computer entry.
The automated monitor system informs college administration and students of advancement in professional education core.	The automated monitor system informs students of advancement in professional education core.	The automated monitor system does not inform students of advancement in professional education core.
University Faculty review and update examination item pool reflecting student competence/instructional effectiveness per semester.	University Faculty review and update examination item pool reflecting student competence/instructional effectiveness per year.	University Faculty do not review and update examination item pool.

IV. Student Evaluation Processes

A3. Component: Assessment Process: Student Teaching

IDEAL	ACCEPTABLE	UNACCEPTABLE
MTAI evaluations are conducted for 2 lesson plans per student teaching experience by: 1. university supervisor 2. public school collaborator 3. public school administrator	MTAI evaluations are conducted for 1 lesson plan per student teaching experience by: 1. university supervisor 2. public school collaborator 3. public school administrator	MTAI evaluations are conducted for 1 lesson plan per student teaching semester by: 1. university supervisor 2. public school collaborator
Students demonstrate 100% of MTAI competencies during each student teaching experience.	Students demonstrate 100% of MTAI competencies during one student teaching experience.	Students demonstrate less than 100% of MTAI during semester.
Student MTAI ratings are recorded on SCANTRON sheets and entered in teacher education data base throughout the experience.	Student MTAI ratings are recorded on SCANTRON sheets and entered in teacher education data base at the completion of the experience.	Student MTAI ratings are recorded informally and are not deposited in teacher education data base.
Needs-based instruction is incorporated into 100% of student teaching seminars.	Needs-based instruction is incorporated into 70% of student teaching seminars.	Needs-based instruction is incorporated into less than 70% of student teaching seminars.

IV. Student Evaluation Processes

B1. Component: Assessment/Advisement Process: Program Advisement

IDEAL	ACCEPTABLE	UNACCEPTABLE
100% of students will be admitted to Teacher Education (admissions exam and grade point average) prior to taking any professional education course-work or certificate area coursework.	100% of students will be admitted to Teacher Education (admissions exam and grade point average) prior to completing more than six hours of certificate area coursework and any professional education credits.	Less than 100% of students will gain admission prior to completing any education coursework.

B2. Component: Assessment/Advisement Process: Program Review

IDEAL	ACCEPTABLE	UNACCEPTABLE
A thirty percent increase in the measured knowledge base as determined by pre- post comparisons of retention checks in first two stages of professional study.	A ten percent increase in the measured knowledge base is determined by pre- post compari-sons of retention checks in first two stages of professional study.	No gain in knowledge base is determined by pre-post comparisons of retention checks in first two stages of professional study.
Total competency mastery is evidenced between pre- post comparisons of student MTAI performance measures resulting from guided lab experiences as compared to final student teaching observations.	Mastery of eighty-five percent of the compe-tency exists in pre-post measures when comparing guided lab experiences with final student teaching observations.	Less than 85% in pre-post MTAI performance measures occur from guided lab experiences to final student teaching observations.
Pearson correlations greater than .50 are measured between pre-service post-service teaching performance measures exist.	Pearson correlations between .35 and .50 are measured between pre-service and post-service teaching performance measures exist.	Pearson correlations less than .35 between pre-service post-service teaching performance measures exist.

Program Assessment Report

Prototype for Automated Teacher Performance Assessment

OERI Contract #400-85-1064

Dr. James A. Siders
Project Director

Dr. Mark G. Richmond
Computer Programmer

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Research Analyst

September, 1988

Program Assessment Report
Prototype for Automated Teacher Performance Assessment
OERI Contract #400-85-1065
University of Southern Mississippi

Major Questions

Debate over five year, fifth year or traditional four year program superiority could continue for unforeseeable years without concluding a best practice (Armstrong, Savage, & Erion, 1986; Hawley, 1987; King, 1986). In fact, concluding one frame of reference for all of teacher education is highly improbable (Tom, 1985). The context of the social and professional community, often influenced by a state economy, will have much to do with the most appropriate teacher education process (Apple, 1987).

Mississippi is typified to the outsider as a poor, rural state. Overcoming a long tradition of classification as the lowest teacher salaried state in the country has become a chief political goal of Governor Ray Mabus. A long history of dwindling regard for educators is another obstacle to improvement of the education milieu in this state. The governor's message for Mississippi is to accept and recognize educators as vital and special people in the future of Mississippi. This new breed of state leadership has brought to public attention the need to invest in education as a primary motivator of economic development. A great deal of hard work and patience must be exhibited in order that low salaries, low regard for teachers, and adverse working conditions be improved. Readily identifiable teaching skills must be promoted to engender public support which

is essential to change in education. A humble economy such as Mississippi's can only support moderate financing without stronger identification with the teaching profession and its effectiveness.

With these constraints in mind, a performance based model was adopted to promote a common understanding of the teaching profession. The credibility of teaching practices was immediately improved with the institution of the evaluative measures accompanying the Mississippi Teacher Assessment Instruments (MTAI) model. Performance based models have been criticized, however, for the narrow perspective represented. Weak and inconsistent empirical reviews further detract from the image of performance based teaching (Zeichner, 1983).

Recent suggested improvements to the profession (Carnegie Foundation, 1986; Feinberg, 1987) propose escalating the professional image of teaching through graduate degrees for entrance into the teaching field. One perception of the Holmes proposal is that it may inflate manpower costs without true empirical support to substantiate the proposed changes (King, 1986). Cost inflation occurs merely by virtue of extending or adding training. The educational, political, and economic climate in Mississippi, all serve to regard extended programming or graduate degree entrance into the profession as an extravagance.

This project set about the initial task of providing confirmation or refutation of the utility of a state mandated performance based model for teaching. In addition, the

relationship of performance based measures to teacher education practices required investigation. This model was also translated to a quality assurance system leading to improved teacher performance and providing a smoother transition during the induction phase of a teaching career. Finally, based upon the longitudinal review, this project may lead to evolution and refinement of performance based practices supporting continued growth and maturity of teaching as a profession.

This project was undertaken through a one year planning period and two years of phased-in program redesign. Three questions were addressed reflecting outcomes of the redesigned program model. Two questions were investigated leading to decisions about the implementation of program changes. Questions reflecting program outcome follow:

1. Will mean differences between pre/post program comparisons at three different instructional levels reflect a developmental knowledge base in this teacher education program?
2. Will correlations of post program measures at three different instructional stages reflect a pattern of teacher education student development when compared to final student teaching assessments?
3. Will correlations of Stage 1, 2, and 3, data against graduate performances on the Mississippi Teacher Assessment Instruments and the National Teacher Examination reflect different levels of performance throughout a teacher education program?

Questions reviewing the redesign and program implementation were:

4. Will university teaching inventories reflect any difference in instructional processes at different stages of the teacher education program?
5. Will the automated monitor system leading to quality assurance of beginning teacher performance improve student performance and support program revision and improvement?

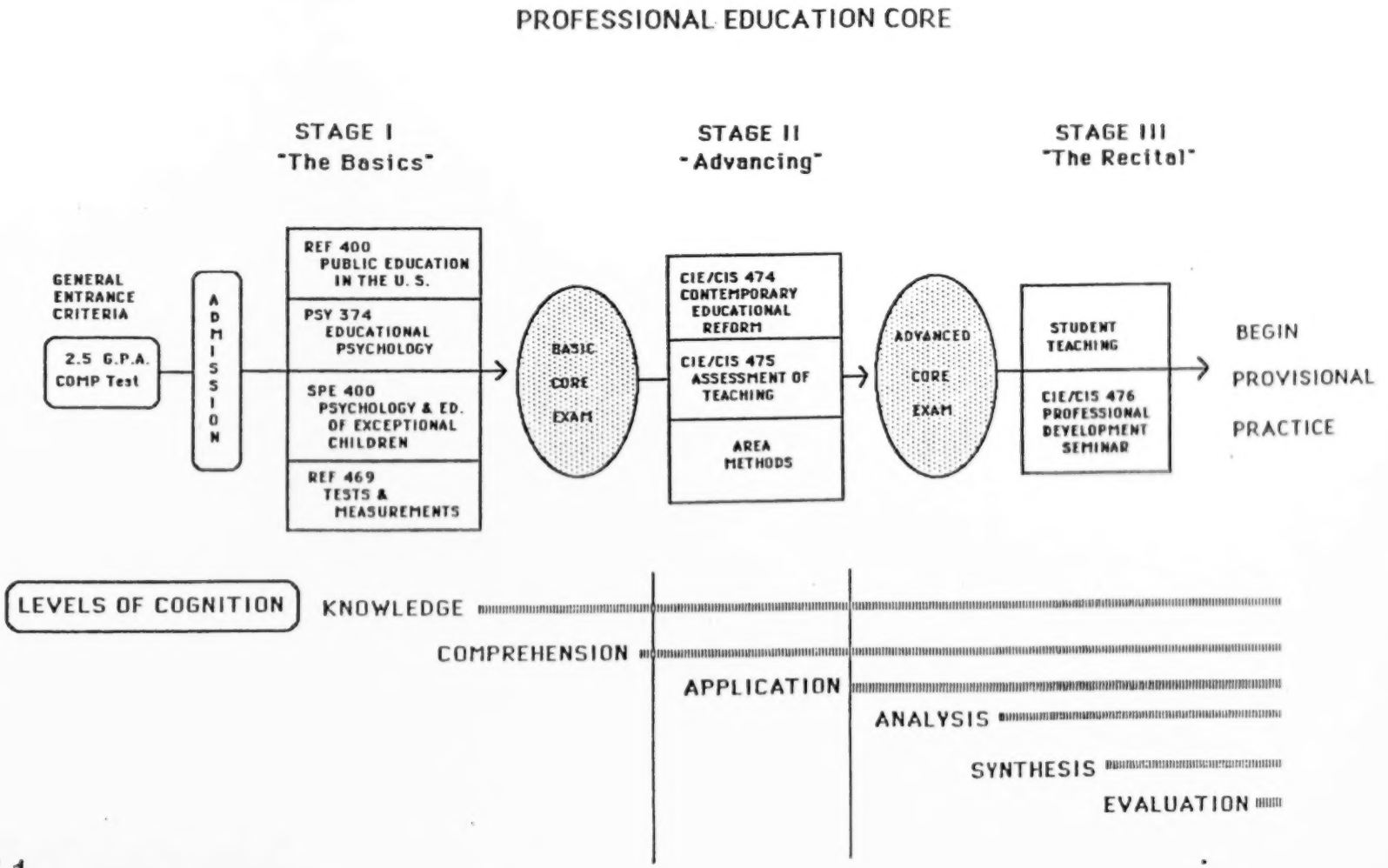
Program/Component Description:

This project reviews a performance based approach to teacher education as reflected in upper division (junior and senior year) coursework. A schematic profile of the professional sequence is presented in Figure 1. Performance measures of teacher education majors were checked continuously over two years. Approximately 200 students were reviewed at varying stages of development in this program. Information reflects program preparation in the final two years of training where professional education content is emphasized (Schnur, Siders, and Richmond, 1987).

Program modifications reflect two program approval measures (the knowledge base via the National Teacher Exam and teaching practice via the performance based model, MTAI). To this end, a curriculum revision process was followed resulting in a new Professional Education Core.

The curriculum revision followed three distinct steps. Initially, curriculum outcomes were identified. Outcomes were listed for presentation to faculty reflecting the forty-two indicators of performance in the MTAI and sixteen clusters of the National Teacher Examination (NTE). This total of fifty-eight

Figure 1


PROFESSIONAL EDUCATION CORE
STAGE I
"The Basics"
STAGE II
"Advancing"
STAGE III
"The Recital"
GENERAL ENTRANCE CRITERIA
2.5 G.P.A.
COMP Test
ADMISSION
REF 400 PUBLIC EDUCATION IN THE U. S.
PSY 374 EDUCATIONAL PSYCHOLOGY
SPE 400 PSYCHOLOGY & ED. OF EXCEPTIONAL CHILDREN
REF 469 TESTS & MEASUREMENTS
BASIC CORE EXAM
CIE/CIS 474 CONTEMPORARY EDUCATIONAL REFORM
CIE/CIS 475 ASSESSMENT OF TEACHING
AREA METHODS
ADVANCED CORE EXAM
STUDENT TEACHING
CIE/CIS 476 PROFESSIONAL DEVELOPMENT SEMINAR
BEGIN PROVISIONAL PRACTICE
LEVELS OF COGNITION
KNOWLEDGE
COMPREHENSION
APPLICATION
ANALYSIS
SYNTHESIS
EVALUATION

curricular strands was presented to the university faculty presently teaching the professional education coursework. An overview of the fourteen competencies in the MTAI is provided in Appendix A to give the reader a sense of the general curriculum outcomes. Next, faculty in the core sequence were requested to reflect on the depth of coverage with respect to each course. Courses were examined in three ways: (a) nature of instruction, (b) type of evaluation, (c) time of coverage for each of the fifty-eight curriculum strands. Faculty were provided opportunity to respond following a menu of practices as depicted in Figure 2. Finally, following the faculty input, depth of coverage was analyzed and curriculum assignments were established by imposing the conversion indices in the right hand column of Figure 2. A formulated process of summing and balancing depth coverage per course assisted in the design of the curriculum matrix presented in Appendix B. The curriculum matrix regarded adjustments in curriculum strands that were overinstructed as well as not covered. The curriculum matrix was then provided to the university faculty responsible for original input, and content adjustments per course were requested.

Supplementing this innovative program is a computerized quality assurance system put in place to record student performance measures throughout the Professional Education Core. Computer entry of information was made possible through the design of response sheets with pencil coded bubbles for the register of student answers or faculty supervisors or public school coordinators observation ratings (Appendix C).

Key: 0 = not covered
1 = knowledge acquisition
2 = cognitive comprehension
3 = application mastery

Figure 2
Curriculum Revision Process

INSTRUCTIONAL ACTIVITIES

Rating Conversion		Activity
1	1.	Lecture
1	2.	Observation of teaching situation
2	3.	Case Study
1	4.	Curriculum review
2	5.	Curriculum development
1	6.	Material review
2	7.	Material demonstration
3	8.	Microteaching - role playing
3	9.	Tutoring experience
3	10.	Field practicum
1	11.	Use of audiovisual media
	12.	Other
	13.	END

EVALUATION PRACTICES

Rating Conversion		Activity
1	1.	Paper and pencil test
1	2.	Narrative/record log of experiences
2	3.	Students' written reactions
2	4.	Students' verbal reactions/discussion
3	5.	Rating scale during observation
2	6.	Peer feedback
2	7.	Student self-analysis
3	8.	Student presentation
0	9.	No evaluation performed
	10.	Other
	11.	END

AMOUNT OF TIME IN MINUTES
DEVOTED TO THIS FUNCTION

Rating Conversion		Activity
0	1.	Less than 30 minutes per semester
1	2.	31 to 60 minutes per semester
1	3.	1 to 2 hours per semester
2	4.	2 to 4 hours per semester
2	5.	4 to 6 hours per semester
2	6.	6 to 8 hours per semester
2	7.	8 to 10 hours per semester
3	8.	More than 10 hours per semester

With the intention to redesign this professional education program while remaining cognizant of the social context of Mississippi, the following program goals were articulated:

1. Training university and public school collaborators in the the use of the Mississippi Teacher Assessment Instruments (MTAI) and National Teacher Examination (NTE) content to:
   a. make adjustments to curricular offerings reflecting performance standards, and
   b. employ the performance measures during student teaching experiences.
2. Correlate professional education course content with the evaluative criteria contained in the MTAI and NTE.
3. Develop a knowledge base within teacher education majors in the evaluative criteria contained in the MTAI and NTE
4. Chronicle the instructional process leading to development of teaching skills from entry level coursework through the exiting student teacher experience.
5. Implement a computer program which will monitor the performance of USM teacher education majors throughout the Professional Education Core and when engaged in student teachin as per the evaluative criteria contained in the MTAI and NTE.

6. Implement a computer managed instructional program which will monitor antecedent teaching behavior of students subsequent teaching behaviors to determine if relationships between teacher education instruction and evaluative criteri contained in the MTAI and NTE exists. In short, this projec deals with the revision of a Professional Education Core an a generic application to all areas of teaching with respect pedagogy.

SAMPLE

Teacher education majors at a comprehensive mid-south university comprised the primary population surveyed in this project. Approximately two hundred students were involved in some form of review in this project. To be eligible for inclusion in the study, students were required to demonstrate a 2.5 grade point average based on a 4.0 scale, from a restricted 44 hour general core of coursework. Students were also required to clear performance standards for admission as measured by the College Outcomes Measures Program, developed by the American College Testing Services.

Faculty from the university who were involved in this study numbered sixty. Faculty are represented from five of seven departments in the College of Education and Psychology and ten departments in five colleges and schools working in conjunction with the college. Faculty represented all aspects of the university structure involved in the teacher education program. Faculty were trained to a predetermined level of inter-rater

performance when evaluating teaching effectiveness with the Mississippi Teacher Assessment Instruments.

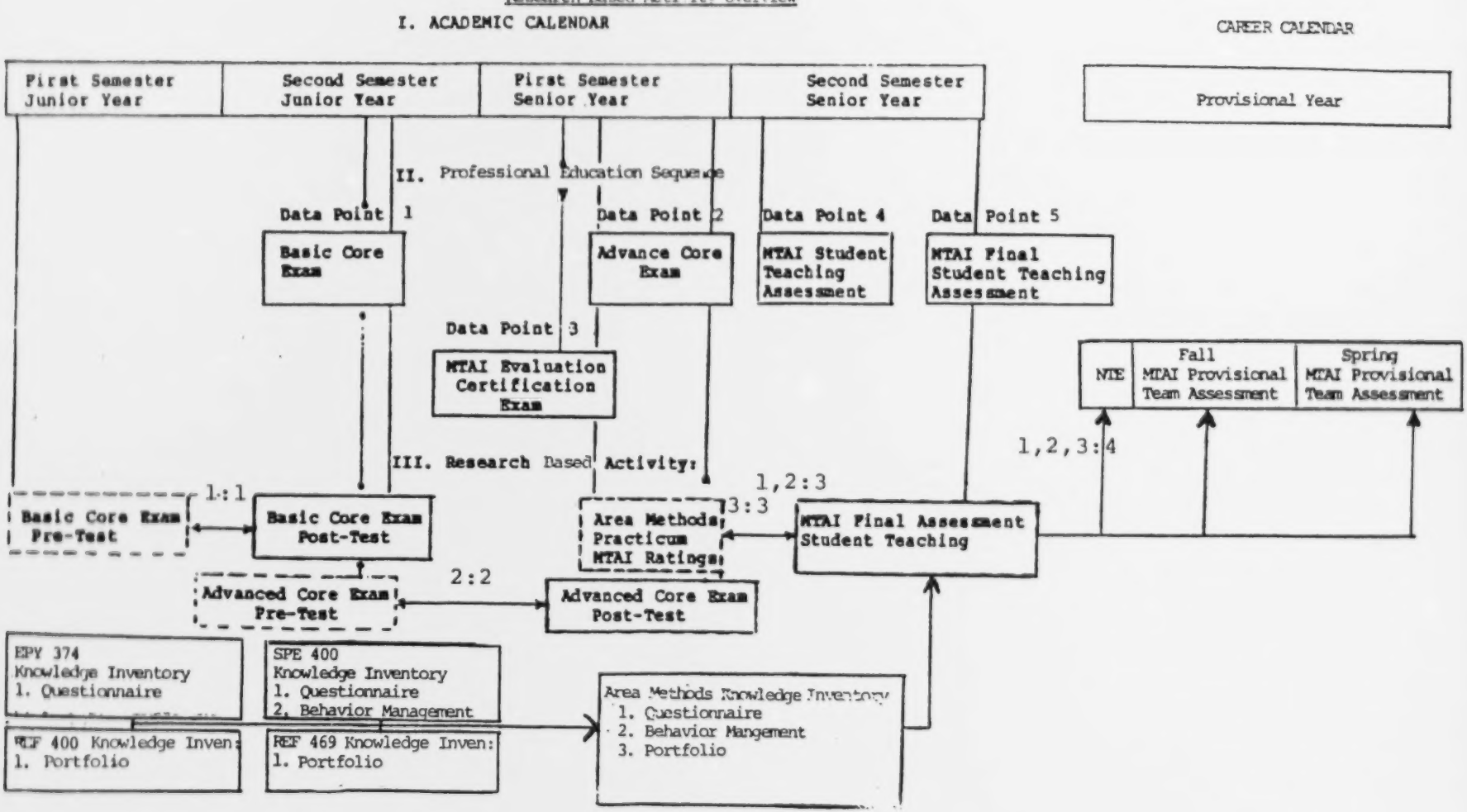
Ninety teachers from five community school districts were also included in this study. Teachers were provided training in the use of the Mississippi Teacher Assessment Instruments identical to that provided the university faculty involved in the project. Teachers were then involved in a variety of activities to develop and/or implement changes in the professional program including instruction and assessment practices applied to teacher education majors. Groups of teachers were trained annually for each of the three years of the project.

Methodology

A profile of the research design of this program is presented in Figure 3 to assist the reader in determining the various comparisons and different levels of the program. Pre and post comparisons for each of three stages are evident by the 1:1 (e.g., pretest : post test), 2:2, and 3:3 notations. The comparisons support the investigation proposed by Question 1. Question 2 contrasts Stages 1 and 2 information with student teaching (1,2:3) (e.g., post test 1 & 2 : post test 3). Question 3, to be reviewed this academic year (1988-89) is depicted in the far right review (1,2,3:4). The base of the figure presents a knowledge inventory review of collegiate instructional style which addressed implementation concerns in Question #4.

Question #1 dealing with pre/post program comparisons for the three different levels of the professional program required data collection from students admitted to the professional

Figure 3


Research Based Activity Overview
I. ACADEMIC CALENDAR
CAREER CALENDAR
First Semester Junior Year
Second Semester Junior Year
First Semester Senior Year
Second Semester Senior Year
Provisional Year
II. Professional Education Sequence
Data Point 1
Basic Core Exam
Data Point 2
Advance Core Exam
Data Point 3
MTAI Evaluation Certification Exam
Data Point 4
MTAI Student Teaching Assessment
Data Point 5
MTAI Final Student Teaching Assessment
NTE
Fall MTAI Provisional Team Assessment
Spring MTAI Provisional Team Assessment
1,2,3:4
III. Research Based Activity:
1:1
Basic Core Exam Pre-Test
Basic Core Exam Post-Test
1,2:3
3:3
Area Methods; Practicum MTAI Ratings;
MTAI Final Assessment Student Teaching
2:2
Advanced Core Exam Pre-Test
Advanced Core Exam Post-Test
EPY 374 Knowledge Inventory 1. Questionnaire
SPE 400 Knowledge Inventory 1. Questionnaire 2. Behavior Management
Area Methods Knowledge Inventory 1. Questionnaire 2. Behavior Mangement 3. Portfolio
REF 400 Knowledge Inven: 1. Portfolio
REF 469 Knowledge Inven: 1. Portfolio

education program. Pre-program information was collected for each stage at the beginning of the semester or following a period of orientation to different aspects of the program. First stage pre-testing was conducted during the first week of the semester. These data were collected with a criterion-referenced, multiple-choice exam, which had been developed by members of the university faculty. Students were assessed at the beginning of each of four courses comprising the first stage of instruction. Parallel post-program information was collected at the completion of the junior year when the four core courses were completed. Data collection was with the same criterion-referenced testbank designed as a retention check of first stage knowledge from this program.

The second stage of the program pre-sequence information was collected during the Assessment of Teaching class. This one hour course, dealing with the use of the Mississippi Teaching Assessment Instruments, required student ratings of standardized video tapes and lesson plans. Ratings which were collected as part of this assessment model, were treated as the pre-measure for the second stage of instruction. At the completion of the first semester, senior year, a second staging exam was administered to students satisfying all Stage 2 course requirements. Unique, standardized, videotapes and lesson plans were viewed by the students and ratings of teacher effectiveness were used to determine students' readiness for student teaching experiences. Data from both bases were collected using coding sheets to facilitate computer entry of data.

The third stage pre/post program comparison also focused on the Mississippi Teacher Assessment Instruments and National Teacher Exam. A requirement of the Stage 2 programming included role-playing experiences in an area methods class and development of a teacher lesson plan. The role play experience and lesson plans were rated using the Mississippi Teacher Assessment Instruments. Post-program comparisons were conducted during the student teaching experience. Student teacher ratings were structured with the Mississippi Teacher Assessment Instruments. Evaluations were generated by the supervisors and coordinators in the public schools.

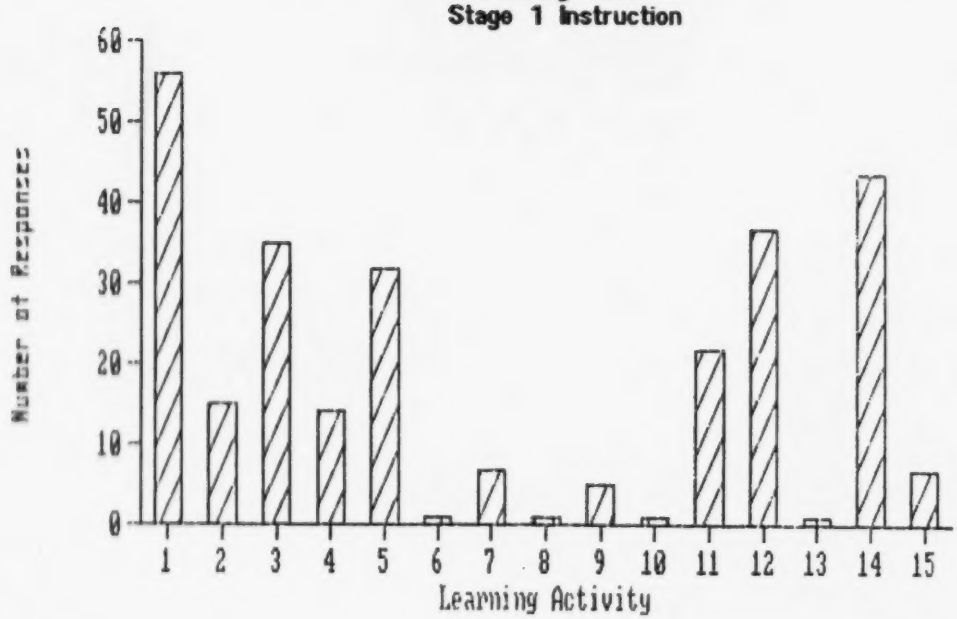
The second question deals with the same data base. Correlative measures of the three stages, contrasted with comparisons to the student teaching assessment information serve as the focus. Student information collected from each of three stages were tested against performance measures administered during student teaching to determine whether or not the knowledge base for teacher education in this model differed from entry level knowledge as well as knowledge measured developmentally throughout the program. The redesign curriculum called for knowledge acquisition level instruction at initial stages of the program. Activities leading to greater student involvement should have been reflected in different levels of instructional coverage in student performance as related to the student teaching experience.

Question #3 parallels the information reviewed in Question 2, but uses the post-program performance on the National Teacher

Exam and provisional measures of teaching effectiveness following graduation. Data on program graduates are not currently available. Graduates of the program entering classrooms this fall will support reviews following an initial year of teaching.

Question #4 reviews collegiate instructional information to determine diversity existing at different stages of the teacher education program. Students in Stages 1 and 2 were requested to respond to the Knowledge Inventories as a weekly journal entry in a timeframe suggested by the course instructor. A graduate assistant was used to gather this information. Data have been displayed with histograms reflecting the different course instructional approaches. Information is presented in Figure 4 a-d to distinguish the information base and learning activities between Stages 1 and 2 of the professional sequence. Based on the information provided through student surveys, a void of student interaction exists in Stage 1 instruction as compared to Stage 2. The preponderance of learning activity (Figure 4 a & b) at both stages was in the presentation of information or demonstration of teaching. However, a balance in other learning activities was more evident in the Stage 2 coursework than in Stage 1 and student activity was much more a factor in the Stage 2 coursework. Figure 4c-d parallels the overview of learning activity by emphasizing the source of information made available to the students. The most obvious difference from Stage 1 to Stage 2 activity was with the reduction in the use of text when students were presented information in the second stage. Students also reported an increase in use of videotape and

Figure 4a
Competency: Lesson Planning Skills
Stage 1 Instruction



KEY

1. Presentation of Information
2. Demonstration of Teaching
3. Large Group Discussion
4. Small Group Discussion
5. Question and Answer
6. Interactive Video
7. Peer Teaching
8. Peer Coaching
9. Classroom Observation
10. Microteaching
11. Supervisor Feedback/Discussion
12. Reading
13. Lesson Planning
14. Note Taking
15. Other

Stage 2 Instruction

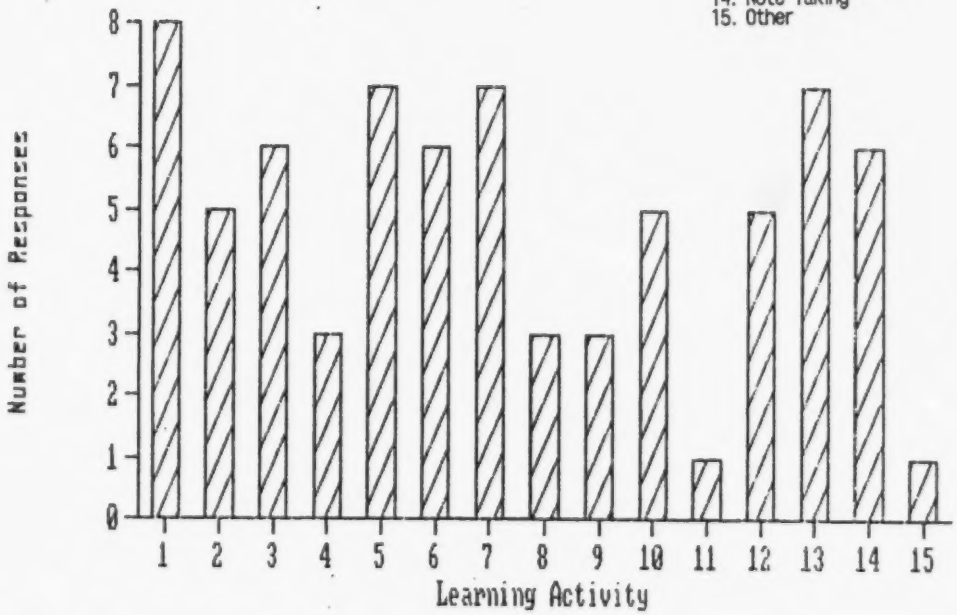
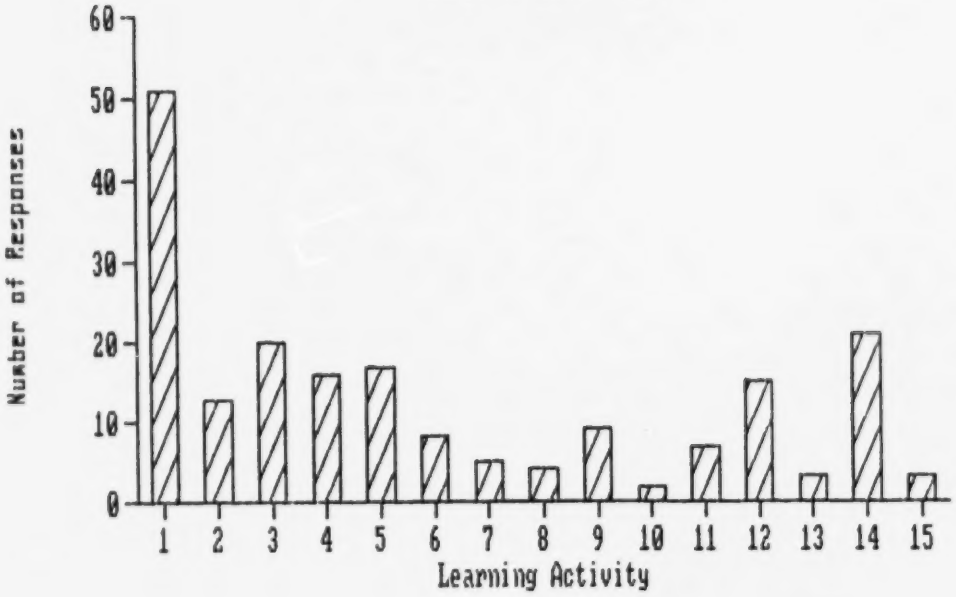


Figure 4b
Competency: Plan for Learner Differences
Stage 1 Instruction



KEY

1. Presentation of Information
2. Demonstration of Teaching
3. Large Group Discussion
4. Small Group Discussion
5. Question and Answer
6. Interactive Video
7. Peer Teaching
8. Peer Coaching
9. Classroom Observation
10. Microteaching
11. Supervisor Feedback/Discussion
12. Reading
13. Lesson Planning
14. Note Taking
15. Other

Stage 2 Instruction

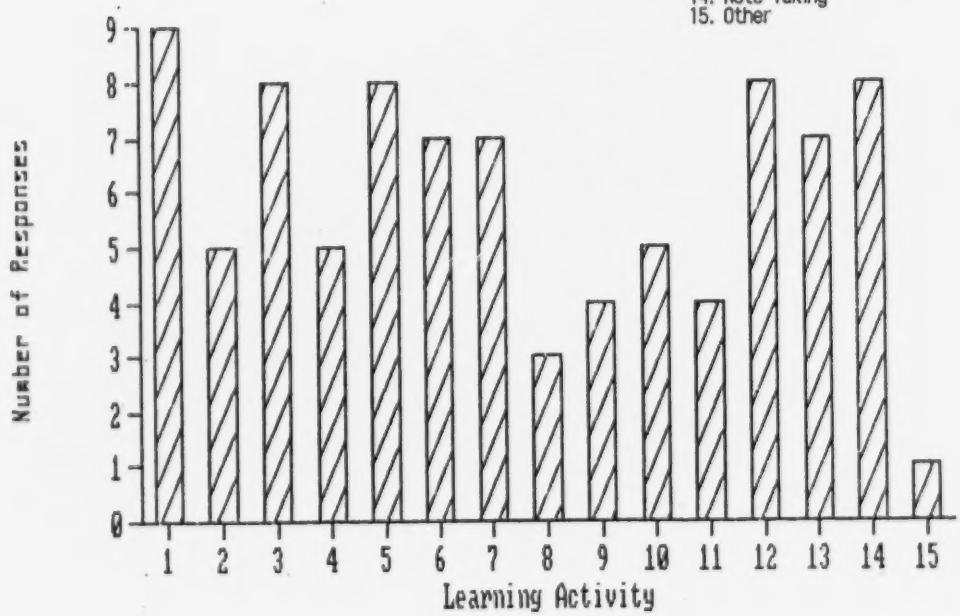
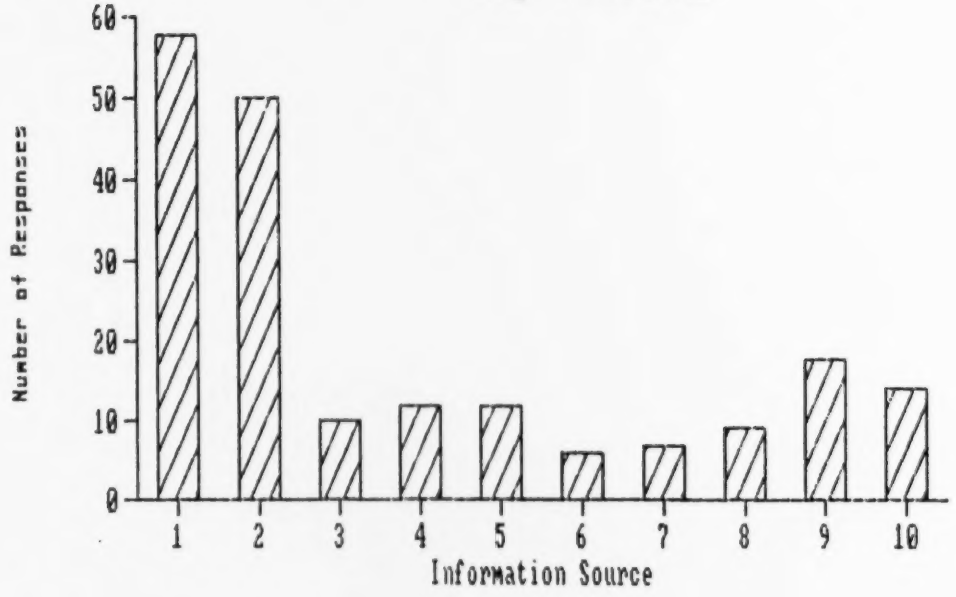


Figure 4c
Competency: Lesson Planning Skills
Stage 1 Instruction



KEY

1. Instructor
2. Text
3. Film
4. Video
5. Other Students
6. Cooperating Teachers
7. Supervisor
8. Research Article
9. Case Study
10. Other

Stage 2 Instruction

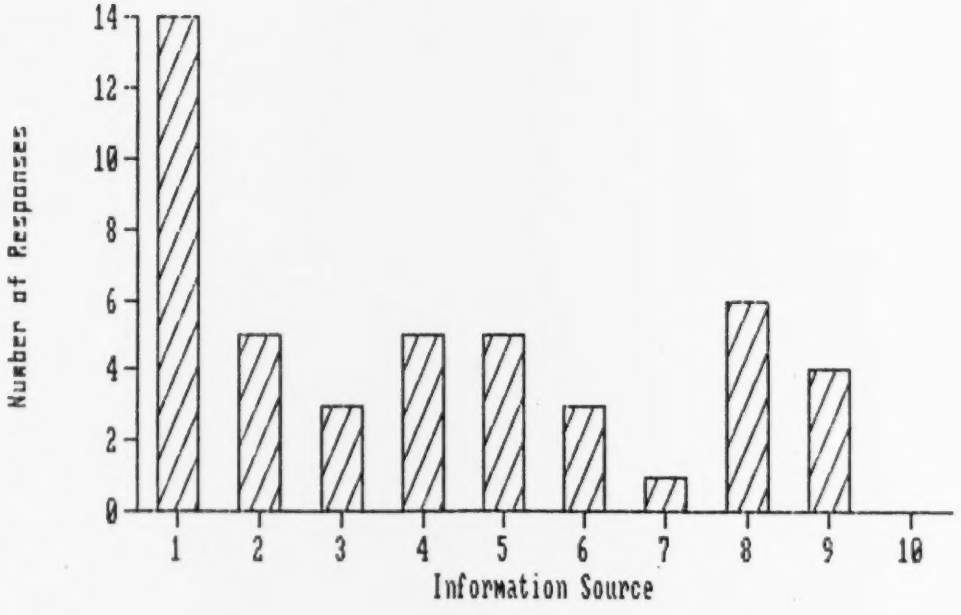
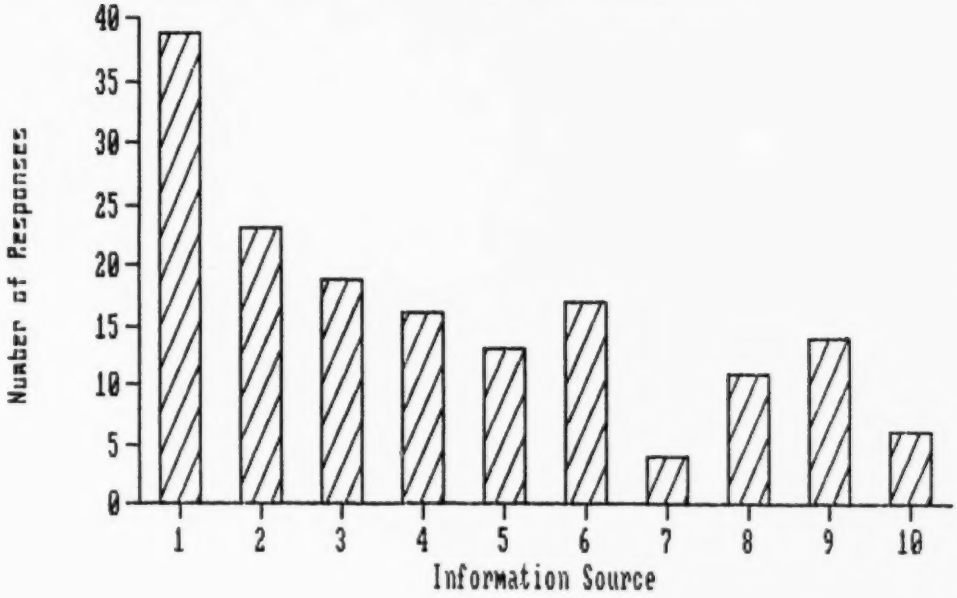


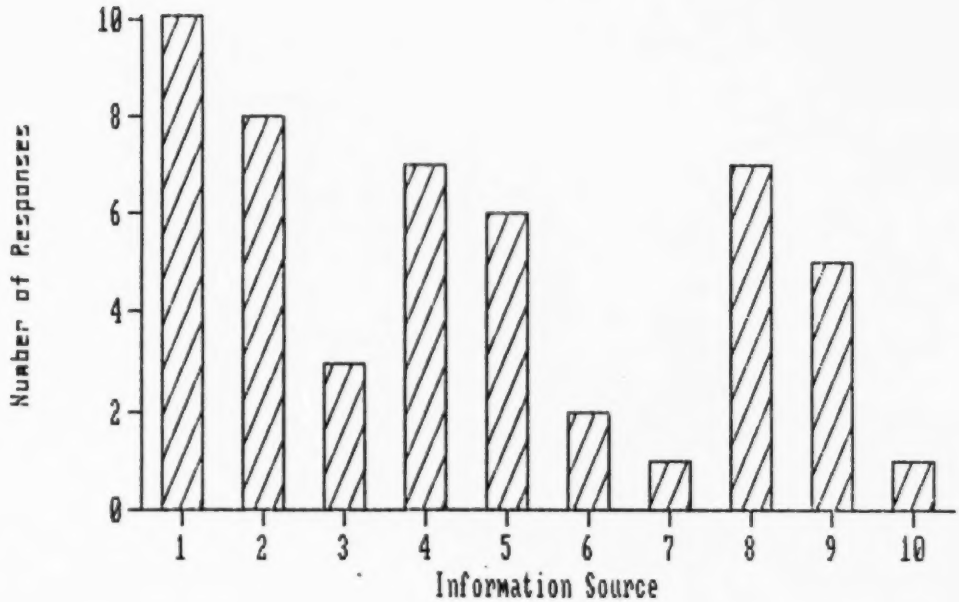
Figure 4d
Plan for Learner Differences
Stage 1 Instruction



KEY

1. Instructor
2. Text
3. Film
4. Video
5. Other Students
6. Cooperating Teachers
7. Supervisor
8. Research Article
9. Case Study
10. Other

Stage 2 Instruction



interaction with their peers at the second stage of instruction as a more integral source of information in this program.

Question #5 surveyed the quality assurance system and its effect on continued improvements to this professional program. The verdict will remain open with respect to the impact on student performance following graduation from this program. The information management system, central to this project, has already been successfully used during curriculum review efforts during the second and third year. In fact the information management system was recognized by the second year external evaluator as an integral component for continued development of this professional program.

INSTRUMENTATION

Data collection occurred in four distinct settings throughout the professional education program. The first data collection materialized from a multiple-choice comprehensive exam developed by the teacher education faculty involved in this program. The structure of the comprehensive, multiple choice exam paralleled the competency coverage as assigned in the curricular matrix, Appendix B1. The exam was structured around four courses in the first stage of the professional program and item breakdowns are reviewed in Table 1. Minimum performance standards were developed using the Nedelsky procedure to arrive at criterion referenced standards of performance (Gross, 1985). Data were gathered for each of the teacher education majors in this study in Stage I via a generic, optical character recognition scoresheet as depicted in Appendix B1. This

comprehensive exam was administered to approximately 200 students over seven administrations.

The second data collection took place in one of the new courses developed for this program, Assessment of Teaching. The intent of this course was to make the student aware of the Mississippi Teacher Assessment Instruments and includes procedures to develop evaluative skills in the discrimination of effective and non-effective teaching by the student. Data collection occurred through a second optical code recognition sheet displayed in Appendix B2. The most salient feature of this collection instrument is the first and second choice response profile. This manner of responding profiled acclamation to the evaluation system. Students consistently matching first choices to standardized ratings of video tapes and lesson portfolios were determined to be better discriminators of effective teaching than those consistently matching second choices or never matching choices to standardized ratings.

The third data collection occurred via a second comprehensive examination. A third optical code recognition sheet, available in Appendix B3, was once again used to capture information. Materials similar to those used in the Assessment of Teaching course were presented to students for single response discrimination of effective and ineffective instruction. Passing performances were identified with degrees of matches to standardized ratings. Prescriptive instruction reviews were defined for specific knowledge areas where students exhibited deficient skills in discriminating effective from non-effective

teaching practice. Student ability in lesson planning and position skills has been questioned for 26% of the students attempting the Advanced Core Examination. Remedial prescriptions, drawing attention to the students' need for additional study of these teaching practices have been forwarded to the student teaching seminar faculty.

The Mississippi Teacher Assessment Instruments were used to assess student teaching performance. Supervising and coordinating instructors record student performance ratings during student teaching reviews using code recognition sheets in Appendix B3.

Results

Data comprehensive to the entire program were made available the first time during Summer of 1988. Analysis was promising in certain areas and disappointing in others. The major conclusion is that the distinction of one stage from another does occur and that different aspects of the program promote different teaching practices. The program begins with knowledge acquisition level instruction which supports the development of more static, instructional planning activities measured by the Basic Core Examination. Information in Tables 1A, B, and C located in Appendix D indicates that lesson planning skills are the most evident of all teaching measures reviewed in the Basic Core Examination. As the program evolved and student activity became more animate, other teaching competencies began to emerge. The second stage of the program appears to promote development of classroom instructional procedures derived from prerequisite

lesson planning. The exiting semester required student teaching and supported the development of interpersonal skills, which were contingent on the school environment as a medium to develop interactions as well as realistically measure this repertoire. Table 1 is presented to illustrate the database reflected from teacher education practices in this program. Information is presented for each of the four core courses for pre/post test measures for the total test per course. Data are then presented per MTAI subscale and the National Teacher Exam (NTE) cluster of information per course. Independent scores were generated for the different pre/post measures per course and significance was determined ($p = .0001$) for the course subscales for the total test as well as coverage particularly of the National Teacher Exam per course. In fact, consistent, statistically significant measures were concluded in all subjects across all areas with regard to knowledge gain per course. Information from Table 2 is continued in Appendix D reflecting competencies structuring the subscales Lesson Planning Skills, Classroom Procedures, and Interpersonal Skills required of the teacher.

Information from Table 1 was also reconstructed to reflect the percent of knowledge base evident from pre-testing and post-testing, as well as changes in the two measures per course per subtest. The number of items used to determine the pre and post test knowledge base becomes increasingly smaller as reviews moved from the total examination, to clusters by course, to sub scales of the test, and finally to specific competencies. The percentage of knowledge must be treated cautiously relative to

Table 1

Pretest - Posttest

Comparisons and T-Test Results

For The Basic Core Examination

(by Course and Areas within each Course)

	Educational Psychology		Foundations of Education		Survey of the Exceptional Child		Tests and Measurements	
	pre	post	pre	post	pre	post	pre	post
TOTAL TEST								
Number of items	31	31	30	30	32	32	34	34
Number of Subjects	179	163	130	163	181	163	118	163
Mean	21.68	25.41	15.62	19.61	23.61	25.71	18.91	23.21
Standard Deviation	3.27	2.82	3.57	3.24	3.03	2.60	3.84	3.10
t-value	11.2688		9.9962		6.8679		10.3723	
significance	0.0001		0.0001		0.0001		0.0001	
Lesson Planning								
Number of items	7	7	9	9	7	7	9	9
Number of Subjects	179	163	130	163	181	163	118	163
Mean	5.35	6.37	5.42	5.26	5.72	5.90	4.71	5.82
Standard Deviation	1.07	0.71	1.46	1.41	1.16	0.99	1.63	1.31
t-value	10.2201		0.9350		1.5238		6.3055	
significance	0.0001		0.1753		0.0642		0.0001	
Classroom Procedures								
Number of items	6	6	6	6	8	8	15	15
Number of Subjects	179	163	130	163	181	163	118	163
Mean	4.89	5.51	4.58	5.39	6.01	6.23	8.84	10.30
Standard Deviation	0.99	0.71	1.17	0.75	1.24	1.16	1.97	1.68
t-value	6.6031		7.1297		1.7107		6.6950	
significance	0.0001		0.0001		0.0440		0.0001	
Interpersonal Skills								
Number of items	8	8			8	8	3	3
Number of Subjects	179	163	NO		181	163	118	163
Mean	5.12	5.90	COVERAGE		5.78	6.08	2.00	2.32
Standard Deviation	1.25	1.36			1.15	1.10	0.67	0.60
t-value	5.5626				2.4255		4.2147	
significance	0.0001				0.0079		0.0001	
National Teachers Examination								
Number of items	10	10	14	14	9	9	7	7
Number of Subjects	179	163	130	163	181	163	118	163
Mean	6.32	7.63	5.14	8.22	6.09	7.50	3.63	4.77
Standard Deviation	1.65	1.32	2.16	2.31	1.55	1.15	1.49	1.17
t-value	8.0786		11.6647		9.5089		8.8794	
significance	0.0001		0.0001		0.0001		0.0001	

the actual change in measured performance. The practicality of this investigation is tainted by the fact that proportional gains were less than desired. Final mean correct responses ranged from pre-test measures between 52 and 74% and post measures from 64 to 82%. This knowledge base is confounded by the fact that pre-test information was measured per course and a specific sequence for the initial stage did not exist to regulate information from one course to another. Information from one course may have supported pretest responses in another. The percentage measures presented in Table 2 warrant further study. One can carelessly make the statement that half of the knowledge base reflected in the test was already known by the teacher education students before beginning any coursework. However, some individuals were exposed to similar information in separate courses and a true measure of the novice's knowledge base can not be determined.

A further indication that learning and consistency in knowledge was developed exists with the review of homogeneity of variance. Variability around the mean decreased when comparing pretest and posttest measures while mean scores increased. This shift positively reflects on student development from this program. While the increased mean score directly reflects the amount of knowledge retained, the decreased variance measure indicates that there was less disparity among students relative to knowledge retained at the end of the course. All students performed better - more gain was made by subjects who were below the mean on pretest scores. The change in content presentation for the four area comparison was most pronounced on the National

Table 2

Pretest and Posttest Average Percentages

Of Total Possible Score for Total Test and

Major Areas Within Each Course

	Educational Psychology	Foundations of Education	Survey of the Exceptional Child	Tests and Measurements
Total Test	pre post difference 70 82 12	pre post difference 52 12 64	pre post difference 74 80 6	pre post difference 56 68 12
Lessson Planning	pre post difference 76 91 .15	pre post difference 60 58 -2	pre post difference 82 84 2	pre post difference 52 65 13
Classroom Procedures	pre post difference 82 92 10	pre post difference 76 90 14	pre post difference 75 78 3	pre post difference 67 69 2
Interpersonal Skills	pre post difference 64 74 10	pre post difference NO COVERAGE	pre post difference 72 76 4	pre post difference 67 77 10
National Teachers examination	pre post difference 63 76 13	pre post difference 37 59 22	pre post difference 68 83 15	pre post difference 52 68 16

Teacher Examination scale. NTE content provided the greatest gain perhaps due to the measurement base itself. This information base was derived from an objective measure. Performance measures, as evidenced in the MTAI, were new bases for the Basic Core Examination and were more subjective (i.e. performance based rather than objective or factual).

Table 3 provides competencies, MTAI subscales, and course measures for a restricted, matched sample. This information is presented for all individuals with responses to all items in the Basic Core Examination per competency. Pre test information was based on the earlier version of the examination and the per course data collection greatly reduced the number of matched responses supporting individual competency statements. Posttest information was conducted more systematically and a larger number of responses is reported. Interpretation of Table 4 is focused on competencies 1 through 5 and the NTE subtests; statistically significant measures ($p < .05$) were reported. Analysis per course comparing pre and post testing also suggested statistically significant ($p < .01$) differences in responses comparing the pre and post measures per course. Correlations between the first and second staging exams are presented in Table 4. The tabled information with regard to the strong positive correlation of Total Basic and Advance Core Examinations scores support the measures of validity of this review. Measures for the Lesson Planning and Classroom Procedures for the Basic Core Examination Total Score relate strongly with measures from the Advanced Core Exam. In contrast, the Basic Core Examination

Table 3

Summary of Results of Pretest-Posttest Comparisons--BCE

	Pretest			Posttest				
Measure	Mean	Var.	N	Mean	Var.	N	t	p*
Competency								
I	8.38	3.45	16	9.30	2.94	164	2.16	<.03
II	4.46	1.22	28	4.96	0.85	164	2.58	<.01
III	5.33	0.61	12	5.47	0.48	164	0.65	
IV	4.17	0.70	12	4.63	0.76	164	1.80	<.05
V	4.58	1.36	130	5.20	0.75	164	5.19	<.01
VI	----	----	---	----	----	---	----	----
VII	3.34	1.72	32	3.63	1.15	164	1.35	
VIII	9.33	1.52	12	10.05	1.54	164	1.95	<.03
IX	4.42	1.36	12	4.55	0.79	164	0.49	
X	3.42	1.17	12	3.73	0.68	164	1.25	
XI	9.67	2.61	12	9.96	1.77	164	0.72	
XII	3.17	0.52	12	3.18	0.40	164	0.09	
XIII	4.39	0.91	28	4.63	1.34	164	1.02	
XIV	5.32	0.97	28	5.56	1.27	164	1.07	
NTE	20.88	8.13	8	28.79	15.49	164	5.61	<.01
MTAI								
TPM	21.88	5.55	8	24.37	6.22	164	2.77	<.01
PS	26.38	11.41	8	28.95	7.40	164	2.59	<.01
IS	12.38	5.13	8	13.37	3.77	164	1.40	
Course								
PSY 374	21.68	10.68	179	25.35	7.81	164	11.13	<.01
REF 400	15.91	11.36	129	19.53	9.77	164	9.50	<.01
SPE 400	16.55	4.85	180	25.66	6.53	164	35.52	<.01
REF 469	16.75	10.27	117	23.16	8.88	164	17.21	<.01
Total	79.63	45.98	8	95.48	67.56	164	5.36	<.01

* One-tailed tests.

Table 4.
Correlations Between Post Stage 1 and Post Stage 2 Scores

		STAGE 1				
		Lesson Plans	Class Procs.	Inter. Skills	NTE	Total
STAGE 2	Lesson Plans	-.01	.66	.83	.53	.69
	Class Procedures	.44	.69	.50	.46	.70
	Interpersonal Skills	.22	.01	-.05	-.12	-.12
	Nat'l Teacher Exam	.20	-.10	-.27	-.36	-.23
	Total	.26	.67	.57	.34	.61

r.05(10) = .576
r.01(10) = .708

Total, contrasted with Interpersonal Skills on the Advanced Core Exam are either non-existent or negatively related. The information supports the theme of differentiated student performance from stage to stage. Once again, the initial stage of programming was designed to promote knowledge acquisition and cognitive comprehension of the teaching practice. The second stage of programming focused on analysis and synthesis of performance and required interactive response and total student engagement in the learning process.

Mean scores and variability comparing the Basic and Advanced Core information are presented in Table 5. Table 5 supports refinement of the knowledge base and its application to teaching in that mean scores increased from one stage to the next while variability of the measures around the mean continued to be reduced from one level to another per subtest.

Table 6 was presented to contrast student performances from the beginning to the end of the student teaching experience. Measures for Lesson Planning and Classroom Procedures were not significant while the Interpersonal Skills measure finally surfaced as the significant measure. An Interpersonal skills t score of 2.01 ($p < .05$) was the only significant measure among the performance measures in student teaching. In other words, significant development of Lesson Planning and Classroom Procedures had already occurred at previous stages of the program.

Table 5.
Stage 1 and 2 Sample Means and Variances of Retention Check Measures.

	Stage 1				Stage 2			
Variable	Total Pos'ble	Min. Perf'm Criter.	mean	var.	Total Pos'ble	Min. Perf'm Criter.	mean	var.
Lesson Planning	34	18	24.92	4.81	40	24	27.00	10.18
Classroom Procedures	32	18	29.42	10.81	56	34	38.08	10.27
Interpersonal Skills	19	10	13.75	4.57	40	24	19.08	1.55
National Teacher Examination	40	22	28.08	21.72	28	15	34.17	6.15
Total	125	68	96.17	10.48	164	97	118.75	9.28

Table 6
Pre vs Post Student Teaching - MTAI
(Dependent Groups)*

	Pre		Post			
Variable	Mean	Var.	Mean	Var.	t	p
TPM	16.83	6.26	17.17	5.79	0.49	ns
PS	26.44	7.56	26.28	12.45	-0.19	ns
IS	11.28	3.62	11.89	3.05	2.01	<.05

*n = 18

Discussion of Results

Program revision is an endless process and continuous adjustments will be required if teacher education is to make necessary advancements. The mechanism for change of this program was instituted through this project. The issue at hand now, is how to keep the system engaged; how can revision continue without starting over.

The monitor process, while relatively complete, is still fragmented; an aspect of the developmental nature of this project. As each stage of the project was completed, computer programs for monitoring project benefits and evaluating the progress of the students have been matched against previously completed aspects. Using this developmental strategy, the complete structure of the monitor and evaluation system existed in total only at contract completion. In short, continued review of this program and the performance product will be required before conclusive statements can be made.

Implications for Improving Teacher Education

This program reflects a four year teacher education model. Recent suggestions to escalate programs to five year or fifth year approaches have occurred largely without comparative empirical review. This project provides the foundation for curriculum revision allowing innovative practices to be integrated into existing programs. In addition, data collection and review practices were developed as a main focus of this project. Other programs may benefit from the technology applications from this project.

Specifically, outcomes of this project support the notion that obtaining competence in the practice of teaching is a developmental process. Evidence from this investigation implies that Lesson Planning Skills are most evident as a knowledge level acquisition activity. Skills required of the classroom emerged in program reviews after lesson planning skills were confirmed. This suggests that a stage of readiness was made available for classroom procedures to be practiced and that guided laboratory experiences were appropriately provided students during the second phase of this program. Ultimately, the student teaching experiences were necessary in order to allow competence in Interpersonal Skills to exist. Hypothetically, these stages of readiness served to distinguish different teaching functions at different instructional levels. A great deal of work remains to be conducted in order to sufficiently articulate readiness factors and functions within teacher education. Other programs are encouraged to cautiously review their practices prior to abandoning preservice undergraduate training in favor of advanced degree entry approaches. Advanced and extended programs are presently popular sources of conversation, but may become the target of criticism typical of the four year program as it exists today.

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APPENDIX A

MISSISSIPPI TEACHERS ASSESSMENT INSTRUMENTS COMPETENCIES

MISSISSIPPI TEACHERS ASSESSMENT INSTRUMENTS
COMPETENCIES

COMPETENCY I:	Plans instruction to achieve selected objectives
COMPETENCY II:	Organizes instruction to take into account individual differences among learners
COMPETENCY III:	Obtains and uses information about the effectiveness of instruction to revise it when necessary
COMPETENCY IV:	Obtains and uses information about the needs and progress of individual learners
COMPETENCY V:	Uses instructional techniques, methods, and media related to the objectives
COMPETENCY VI:	Communicates with learners
COMPETENCY VII:	Demonstrates a repertoire of teaching methods
COMPETENCY VIII:	Reinforces and encourages learner involvement in instruction
COMPETENCY IX:	Demonstrates an understanding of the school subject being taught and demonstrates its relevance
COMPETENCY X:	Organizes time, space, materials, and equipment for instruction
COMPETENCY XI:	Demonstrates high expectations for learners' academic performance
COMPETENCY XII:	Demonstrates enthusiasm for teaching and learning and the subject being taught
COMPETENCY XIII:	Helps learners develop positive self-concepts
COMPETENCY XIV:	Manages classroom interactions

APPENDIX B

INITIAL PARTITION OF CORE OFFERINGS WITH VARIABLE DEGREES OF COVERAGE

KEY: K = Knowledge Acquisition
C = Cognitive Comprehension
A = Application Mastery

MTAI/NTE ELEMENT STEMS AND THEIR RELATIONSHIP TO CORE COURSES

	EDUCATIONAL PSYCHOLOGY	FOUNDATIONS OF EDUCATION	TESTS AND MEASUREMENTS	INTRODUCTION TO EXEPTIONAL CHILDREN	AREA SPECIAL METHODS	CONTEMPORARY EDUCATION REFORM	ASSESSMENT OF TEACHING	PROFESSIONAL DEVELOPMENT SEMINAR
1. Specifies or selects learner objectives for lessons.		K	C		A	C		
2. Specifies or selects teaching procedures for lessons.		K	C		A	C		
3. Specifies or selects content, materials and media for lessons.		K	C		A	C		
4. Specifies or selects materials and procedures for assessing learner progress on the objectives.		K	C		A	C		
5. Plans instruction at a variety of levels.		K	C		A	C		
6. Organizes instruction to take into account differences among learners in their capabilities.	K			C	A	C		
7. Organizes instruction to take into account differences among learners in their learning styles.	K			C	A	C		
8. Organizes instruction to take into account differences among learners in their rates of learning.	K			C	A	C		
9. Uses teacher-made or teacher-selected evaluation materials to obtain information about learner progress.	K		C	C	A	C		
10. Communicates with individual learners about their needs and progress.	K		C	C	A	C		

	EDUCATIONAL PSYCHOLOGY	FOUNDATIONS OF EDUCATION	TESTS AND MEASUREMENTS	INTRODUCTION TO EXEPTIONAL CHILDREN	AREA SPECIAL METHODS	CONTEMPORARY EDUCATION REFORM	ASSESSMENT OF TEACHING	PROFESSIONAL DEVELOPMENT SEMINAR
11. Obtains information on the effectiveness of instruction.	K		C	C	A	C		
12. Revises instruction as needed using evaluation results and observation data.	K		C	C	A	C		
13. Uses teaching methods appropriate for objectives, learners and environment.		K			C	C		
14. Uses instructional equipment and other instructional aids.		K			C	C		
15. Uses instructional materials that provide learners with appropriate practice on objectives.		K			C	C		
16. Gives directions and explanations related to lesson content.					C	C		A
17. Clarifies directions and explanations when learners misunderstand lesson content.					C	C		A
18. Uses responses and questions from learners in teaching.					C	C		A
19. Provides feedback to learners throughout the lesson.					C	C		A
20. Uses acceptable written and oral expression with learners.					C	C		A

	EDUCATIONAL PSYCHOLOGY	FOUNDATIONS OF EDUCATION	TESTS AND MEASUREMENTS	INTRODUCTION TO EXEPTIONAL CHILDREN	AREA SPECIAL METHODS	CONTEMPORARY EDUCATION REFORM	ASSESSMENT OF TEACHING	PROFESSIONAL DEVELOPMENT SEMINAR
21. Implements learning activities in a logical sequence.					A	C		
22. Demonstrates ability to conduct lessons using a variety of teaching methods.			K	C	A	C		
23. Demonstrates ability to work with individuals, small groups, and large groups.			K	C	A	C		
24. Uses procedures which get learners initially involved in lessons.	K		K	C	C	C		
25. Provides learners with opportunities for participating.	K		K	C	C	C		
26. Maintains learner involvement in lessons.	K		K	C	C	C		
27. Reinforces and encourages the efforts of learners to maintain involvement.	K		C	C	C	C		A
28. Helps learners recognize the purpose and importance of topics or activities.	K		C	C	A	C		A
29. Demonstrates knowledge in the subject area.			K		C	C		
30. Attends to routine tasks.			K		C	C		C
31. Uses instructional time effectively.	K		C	C	C	C		A

	EDUCATIONAL PSYCHOLOGY	FOUNDATIONS OF EDUCATION	TESTS AND MEASUREMENTS	INTRODUCTION TO EXEPTIONAL CHILDREN	AREA SPECIAL METHODS	CONTEMPORARY EDUCATION REFORM	ASSESSMENT OF TEACHING	PROFESSIONAL DEVELOPMENT SEMINAR
32. Provides a learning environment that is attractive and orderly.			K		C	C		C
33. Communicates personal enthusiasm.			K		K	C	K	C
34. Stimulates learner interest.			K		K	C	K	C
35. Conveys the impression of knowing what to do and how to do it.	K		C	C	K	C	K	A
36. Demonstrates warmth and friendliness.	K			C	A	C	C	A
37. Demonstrates sensitivity to the needs and feelings of learners.	K			C	A	C	C	A
38. Demonstrates patience, empathy, and understanding.	K			C	A	C	C	A
39. Provides feedback to learners about their behavior.	K			C	A	C	C	A
40. Promotes comfortable interpersonal relationships.	K			C	A	C	C	A
41. Maintains appropriate classroom behavior.	K			C	A	C	C	A
42. Manages disruptive behavior among learners.	K			C	A	C	C	A

	EDUCATIONAL PSYCHOLOGY	FOUNDATIONS OF EDUCATION	TESTS AND MEASUREMENTS	INTRODUCTION TO EXEPTIONAL CHILDREN	AREA SPECIAL METHODS	CONTEMPORARY EDUCATION REFORM	ASSESSMENT OF TEACHING	PROFESSIONAL DEVELOPMENT SEMINAR
43. Significant historical events in American public education and awareness of contemporary problems, issues and trends.		C		C			A	A
44. Relationship of objectives of the larger society to education, including the contributions of educational philosophers.		C					C	A
45. Relationships among the teacher, the school, the community, and the profession.		K					C	A
46. Relationship of growth and developmental characteristics of children to learning and instruction.	C			C	C			A
47. Knowledge of curriculum organization and trends, school/classroom organizational patterns, and their applications to learning and instruction.		K	C		C		C	A
48. Knowledge of basic concepts and principles of learning and their relationship to instruction.	C		K		C		A	
49. Knowledge of the impact of social-cultural variables on learning and instruction.		K		A	C			
50. Knowledge of current strategies and theories of teaching and approaches to instruction.	K			C	A	C		A

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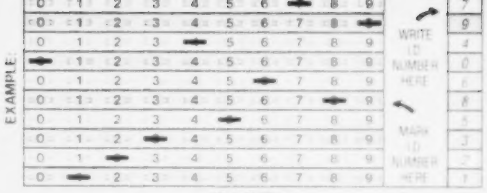
	EDUCATIONAL PSYCHOLOGY	FOUNDATIONS OF EDUCATION	TESTS AND MEASUREMENTS	AREA SPECIAL CHILDREN	INTRODUCTION TO EXEPTIONAL METHODS	CONTEMPORARY EDUCATION REFORM	ASSESSMENT OF TEACHING	PROFESSIONAL DEVELOPMENT SEMINAR
51. Knowledge of the social structure of the classroom, its implications for learning and of the impact of teacher characteristics upon learning.	K	C		C				A
52. Knowledge of appropriate ways of maintaining classroom control and ways of dealing with behavioral problems.	K			C	A			A
53. Approaches to the development of concepts and of intellectual skills and abilities.	C			K				
54. Application of concepts and principles of learning and teaching to specific instructional problems.	K			A	C			A
55. Applications of principles of evaluation to daily instructional procedures.	K		A		C			
56. Characteristics and roles of various kinds of tests.	K		A		C			
57. Knowledge and use of basic statistical concepts.	K		A		C			
58. Reporting pupil progress to parents.		K		A	C			A

APPENDIX C

COMPUTERIZED CODING SHEETS

0	1	2	3	4	5	6	7	8	9	WRITE I.D. NUMBER HERE	
0	1	2	3	4	5	6	7	8	9		
0	1	2	3	4	5	6	7	8	9		
0	1	2	3	4	5	6	7	8	9		
0	1	2	3	4	5	6	7	8	9		
0	1	2	3	4	5	6	7	8	9		
0	1	2	3	4	5	6	7	8	9		
0	1	2	3	4	5	6	7	8	9	MARK I.D. NUMBER HERE	
0	1	2	3	4	5	6	7	8	9		
0	1	2	3	4	5	6	7	8	9		



PART 1

CODE I.D. NUMBER AT LEFT BY FILLING IN THE APPROPRIATE BOXES ACCORDING TO THE EXAMPLE

	(T)	(F)				KEY		(T)	(F)			
1	A	B	C	D	E		51	A	B	C	D	E
2	A	B	C	D	E		52	A	B	C	D	E
3	A	B	C	D	E		53	A	B	C	D	E
4	A	B	C	D	E		54	A	B	C	D	E
5	A	B	C	D	E		55	A	B	C	D	E
6	A	B	C	D	E		56	A	B	C	D	E
7	A	B	C	D	E		57	A	B	C	D	E
8	A	B	C	D	E		58	A	B	C	D	E
9	A	B	C	D	E		59	A	B	C	D	E
10	A	B	C	D	E		60	A	B	C	D	E
11	A	B	C	D	E		61	A	B	C	D	E
12	A	B	C	D	E		62	A	B	C	D	E
13	A	B	C	D	E		63	A	B	C	D	E
14	A	B	C	D	E		64	A	B	C	D	E
15	A	B	C	D	E		65	A	B	C	D	E
16	A	B	C	D	E		66	A	B	C	D	E
17	A	B	C	D	E		67	A	B	C	D	E
18	A	B	C	D	E		68	A	B	C	D	E
19	A	B	C	D	E		69	A	B	C	D	E
20	A	B	C	D	E		70	A	B	C	D	E
21	A	B	C	D	E		71	A	B	C	D	E
22	A	B	C	D	E		72	A	B	C	D	E
23	A	B	C	D	E		73	A	B	C	D	E
24	A	B	C	D	E		74	A	B	C	D	E
25	A	B	C	D	E		75	A	B	C	D	E
26	A	B	C	D	E		76	A	B	C	D	E
27	A	B	C	D	E		77	A	B	C	D	E
28	A	B	C	D	E		78	A	B	C	D	E
29	A	B	C	D	E		79	A	B	C	D	E
30	A	B	C	D	E		80	A	B	C	D	E
31	A	B	C	D	E		81	A	B	C	D	E
32	A	B	C	D	E		82	A	B	C	D	E
33	A	B	C	D	E		83	A	B	C	D	E
34	A	B	C	D	E		84	A	B	C	D	E
35	A	B	C	D	E		85	A	B	C	D	E
36	A	B	C	D	E		86	A	B	C	D	E
37	A	B	C	D	E		87	A	B	C	D	E
38	A	B	C	D	E		88	A	B	C	D	E
39	A	B	C	D	E		89	A	B	C	D	E
40	A	B	C	D	E		90	A	B	C	D	E
41	A	B	C	D	E		91	A	B	C	D	E
42	A	B	C	D	E		92	A	B	C	D	E
43	A	B	C	D	E		93	A	B	C	D	E
44	A	B	C	D	E		94	A	B	C	D	E
45	A	B	C	D	E		95	A	B	C	D	E
46	A	B	C	D	E		96	A	B	C	D	E
47	A	B	C	D	E		97	A	B	C	D	E
48	A	B	C	D	E		98	A	B	C	D	E
49	A	B	C	D	E		99	A	B	C	D	E
50	A	B	C	D	E		100	A	B	C	D	E

IMPORTANT

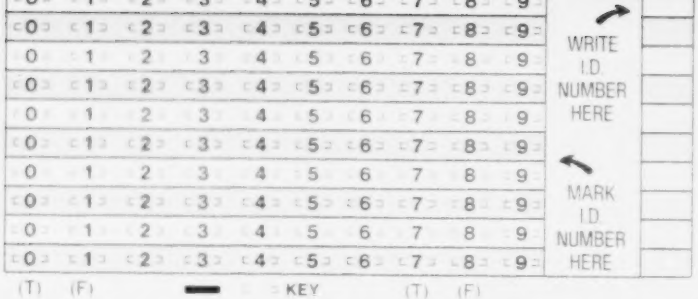
USE NO. 2 PENCIL ONLY

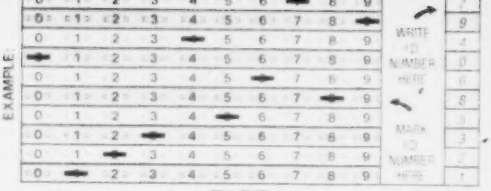
- MAKE ***DARK*** MARKS
- EXAMPLE: A B ◆ D E
- ERASE ***COMPLETELY*** TO CHANGE

NAME _____

SUBJECT _____

HOUR _____ DATE _____





PART 2

CODE I.D. NUMBER AT LEFT BY FILLING IN THE APPROPRIATE BOXES ACCORDING TO THE EXAMPLE

(T) (F) KEY (T) (F)

101	A	B	C	D	E	151	A	B	C	D	E
102	A	B	C	D	E	152	A	B	C	D	E
103	A	B	C	D	E	153	A	B	C	D	E
104	A	B	C	D	E	154	A	B	C	D	E
105	A	B	C	D	E	155	A	B	C	D	E
106	A	B	C	D	E	156	A	B	C	D	E
107	A	B	C	D	E	157	A	B	C	D	E
108	A	B	C	D	E	158	A	B	C	D	E
109	A	B	C	D	E	159	A	B	C	D	E
110	A	B	C	D	E	160	A	B	C	D	E
111	A	B	C	D	E	161	A	B	C	D	E
112	A	B	C	D	E	162	A	B	C	D	E
113	A	B	C	D	E	163	A	B	C	D	E
114	A	B	C	D	E	164	A	B	C	D	E
115	A	B	C	D	E	165	A	B	C	D	E
116	A	B	C	D	E	166	A	B	C	D	E
117	A	B	C	D	E	167	A	B	C	D	E
118	A	B	C	D	E	168	A	B	C	D	E
119	A	B	C	D	E	169	A	B	C	D	E
120	A	B	C	D	E	170	A	B	C	D	E
121	A	B	C	D	E	171	A	B	C	D	E
122	A	B	C	D	E	172	A	B	C	D	E
123	A	B	C	D	E	173	A	B	C	D	E
124	A	B	C	D	E	174	A	B	C	D	E
125	A	B	C	D	E	175	A	B	C	D	E
126	A	B	C	D	E	176	A	B	C	D	E
127	A	B	C	D	E	177	A	B	C	D	E
128	A	B	C	D	E	178	A	B	C	D	E
129	A	B	C	D	E	179	A	B	C	D	E
130	A	B	C	D	E	180	A	B	C	D	E
131	A	B	C	D	E	181	A	B	C	D	E
132	A	B	C	D	E	182	A	B	C	D	E
133	A	B	C	D	E	183	A	B	C	D	E
134	A	B	C	D	E	184	A	B	C	D	E
135	A	B	C	D	E	185	A	B	C	D	E
136	A	B	C	D	E	186	A	B	C	D	E
137	A	B	C	D	E	187	A	B	C	D	E
138	A	B	C	D	E	188	A	B	C	D	E
139	A	B	C	D	E	189	A	B	C	D	E
140	A	B	C	D	E	190	A	B	C	D	E
141	A	B	C	D	E	191	A	B	C	D	E
142	A	B	C	D	E	192	A	B	C	D	E
143	A	B	C	D	E	193	A	B	C	D	E
144	A	B	C	D	E	194	A	B	C	D	E
145	A	B	C	D	E	195	A	B	C	D	E
146	A	B	C	D	E	196	A	B	C	D	E
147	A	B	C	D	E	197	A	B	C	D	E
148	A	B	C	D	E	198	A	B	C	D	E
149	A	B	C	D	E	199	A	B	C	D	E
150	A	B	C	D	E	200	A	B	C	D	E

NCS Form Optic MP01 72733 321 A1804-9

NAME (LAST, FIRST, M.I.)

THE UNIVERSITY OF SOUTHERN MISSISSIPPI
MTAI ANSWER SHEET

DIRECTIONS • USE A NO 2 PENCIL ONLY • DO NOT USE INK • ERASE CHANGES CLEANLY

BIRTHDATE (YEAR, MONTH)

FILE IDENTIFICATION

TEACHER CERTIFICATION #

TEACHING PLANS AND MATERIALS

	CHOICE 1	CHOICE 2
1	1 2 3 4 5	1 2 3 4 5
2	1 2 3 4 5	1 2 3 4 5
3	1 2 3 4 5	1 2 3 4 5
4	1 2 3 4 5	1 2 3 4 5
5	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
6	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
7	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
8	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
9	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
10	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
11	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
12	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5

POSITION SKILLS

	CHOICE 1	CHOICE 2
13	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
14	1 2 3 4 5	1 2 3 4 5
15	1 2 3 4 5	1 2 3 4 5
16	1 2 3 4 5	1 2 3 4 5
17	1 2 3 4 5	1 2 3 4 5
18	1 2 3 4 5	1 2 3 4 5
19	1 2 3 4 5	1 2 3 4 5
20	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
21	1 2 3 4 5	1 2 3 4 5
22	1 2 3 4 5	1 2 3 4 5
23	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
24	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
25	1 2 3 4 5	1 2 3 4 5
26	1 2 3 4 5	1 2 3 4 5
27	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
28	1 2 3 4 5	1 2 3 4 5
29	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
30	1 2 3 4 5	1 2 3 4 5
31	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
32	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5

INTERPERSONAL SKILLS

	CHOICE 1	CHOICE 2
33	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
34	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
35	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
36	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
37	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
38	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
39	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
40	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
41	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5
42	a b c d	a b c d
	Y N Y N Y N Y N	Y N Y N Y N Y N
	1 2 3 4 5	1 2 3 4 5

The University of Southern Mississippi

MTAI ANSWER SHEET

DIRECTIONS • USE A NO. 2 PENCIL ONLY • DO NOT USE INK • ERASE COMPLETELY FOR ANY

NAME (LAST, FIRST, MI) SPACE BETWEEN NAMES

A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J
K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K	K
L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z

SCHOOL DISTRICT NO.

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1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

SCHOOL NO.

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

TRIAL NO.

1
2
3
4
5
6

STUDENT ID NO.

0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

SUBJECT TAUGHT

0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9

GRADE LEVEL

0	0
1	1
	2
	3
	4
	5
	6
	7
	8
	9

FEED THIS DIRECTION

EVALUATOR CERTIFICATION NO.

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

102

SIDE A

STUDENT SSAN

0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
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6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9

APPENDIX D

SUPPLEMENTARY INFORMATION
TABLES 1A - C

Table 1 a

Basic Core Examination

Pretest - Posttest

Comparisons and T-Test Results

For The complete Battery (by course and Lesson Planning within each course)

	Educational Psychology		Foundations of Education		Survey of the Exceptional Child		Tests and Measurements	
	pre	post	pre	post	pre	post	pre	post
TOTAL TEST (as applied to each course)								
Number of items	31	31	30	30	32	32	34	34
Number of Subjects	179	163	130	163	181	163	118	163
Mean	21.68	25.41	15.62	19.61	23.61	25.71	18.91	23.21
Standard Deviation	3.27	2.82	3.57	3.24	3.03	2.60	3.84	3.10
t-value	11.2688		9.9962		6.8679		10.3723	
significance (one-tailed)	0.0001		0.0001		0.0001		0.0001	
Lesson Planning (as applied to each course)								
Number of items	7	7	9	9	7	7	9	9
Number of Subjects	179	163	130	163	181	163	118	163
Mean	5.35	6.37	5.42	5.26	5.72	5.90	4.71	5.82
Standard Deviation	1.07	0.71	1.46	1.41	1.16	0.99	1.63	1.31
t-value	10.2201		0.9350		1.5238		6.3055	
significance (one-tailed)	0.0001		0.1753		0.0642		0.0001	
Competency 1 (as applied to each course)								
Number of items			9	9			5	5
Number of Subjects			130	163			118	163
Mean	NO COVERAGE		5.42	5.26	NO COVERAGE		2.31	3.02
Standard Deviation			1.46	1.41			1.11	0.92
t-value			0.9350				5.8881	
significance (one-tailed)			0.1753				0.0001	
Competency 2 (as applied to each course)								
Number of items	3	3			3	3		
Number of Subjects	179	163			181	163	NO COVERAGE	
Mean	2.18	2.75	NO COVERAGE		2.14	2.21		
Standard Deviation	0.72	0.47			0.82	0.78		
t-value	8.5476				0.8865			
significance (one-tailed)	0.0001				0.1880			

	Educational Psychology		Foundations of Education		Survey of the Exceptional Child		Tests and Measurements	
	pre	post	pre	post	pre	post	pre	post
Competency 3 (as applied to each course)								
Number of items	2	2			2	2	2	2
Number of Subjects	179	163	NO		181	163	118	163
Mean	1.70	1.92	COVERAGE		1.78	1.83	1.47	1.71
Standard Deviation	0.48	0.27			0.44	0.37	0.61	0.51
t-value	5.0481				1.2481		3.6847	
significance (one-tailed)	0.0001				0.1064		0.0001	
Competency 4 (as applied to each course)								
Number of items	4	4			2	2	2	2
Number of Subjects	179	163	NO		181	163	118	163
Mean	1.46	1.69	COVERAGE		1.81	1.85	0.93	1.09
Standard Deviation	0.52	0.46			0.44	0.36	0.75	0.58
t-value	4.2870				1.0682		1.9367	
significance (one-tailed)	0.0001				0.1431		0.0269	

Table 1 b

Basic Core Examination

Pretest - Posttest

Comparisons and T-Test Results

For The complete Battery (by course and Classroom Procedures within each course)

	Educational Psychology		Foundations of Education		Survey of the Exceptional Child		Tests and Measurements	
	pre	post	pre	post	pre	post	pre	post
TOTAL TEST (as applied to each course)								
Number of items	31	31	30	30	32	32	34	34
Number of Subjects	179	163	130	163	181	163	118	163
Mean	21.68	25.41	15.62	19.61	23.61	25.71	18.91	23.21
Standard Deviation	3.27	2.82	3.57	3.24	3.03	2.60	3.84	3.10
t-value	11.2688		9.9962		6.8679		10.3723	
significance (one-tailed)	0.0001		0.0001		0.0001		0.0001	
Classroom Procedures (as applied to each course)								
Number of items	6	6	6	6	8	8	15	15
Number of Subjects	179	163	130	163	181	163	118	163
Mean	4.89	5.51	4.58	5.39	6.01	6.23	8.84	10.30
Standard Deviation	0.99	0.71	1.17	0.75	1.24	1.16	1.97	1.68
t-value	6.6031		7.1297		1.7107		6.6950	
significance (one-tailed)	0.0001		0.0001		0.0440		0.0001	
Competency 5 (as applied to each course)								
Number of items			6	6				
Number of Subjects	NO		130	163	NO		NO	
Mean	COVERAGE		4.58	5.39	COVERAGE		COVERAGE	
Standard Deviation			1.17	0.75				
t-value			7.1297					
significance (one-tailed)			0.0001					
Competency 6 (as applied to each course)								
Number of items								
Number of Subjects	NO		NO		NO		NO	
Mean	COVERAGE		COVERAGE		COVERAGE		COVERAGE	
Standard Deviation								
t-value								
significance (one-tailed)								

	Educational Psychology		Foundations of Education		Survey of the Exceptional Child		Tests and Measurements	
	pre	post	pre	post	pre	post	pre	post
Competency 7 (as applied to each course)								
Number of items					2	2	4	4
Number of Subjects	NO		NO		181	163	118	163
Mean	COVERAGE		COVERAGE		1.38	1.31	2.09	2.34
Standard Deviation					0.68	0.67	0.97	0.82
t-value					-0.9480		2.3391	
significance (one-tailed)					0.1719		0.0100	
Competency 8 (as applied to each course)								
Number of items	4	4			4	4	2	2
Number of Subjects	179	163	NO		181	163	118	163
Mean	3.30	3.68	COVERAGE		3.08	3.13	2.86	3.28
Standard Deviation	0.76	0.53			0.76	0.75	1.00	0.79
t-value	5.3260				0.7086		3.9402	
significance (one-tailed)	0.0001				0.2395		0.0001	
Competency 9 (as applied to each course)								
Number of items	1	1			1	1	4	4
Number of Subjects	179	163	NO		181	163	118	163
Mean	0.72	0.88	COVERAGE		0.85	0.91	2.47	2.77
Standard Deviation	0.45	0.32			0.36	0.28	0.80	0.79
t-value	3.8143				1.9514		3.1285	
significance (one-tailed)	0.0001				0.0259		0.0010	
Competency 10 (as applied to each course)								
Number of items	1	1			1	1	3	3
Number of Subjects	179	163	NO		181	163	118	163
Mean	0.87	0.94	COVERAGE		0.71	0.87	1.42	1.91
Standard Deviation	0.34	0.23			0.46	0.34	0.83	0.76
t-value	2.4820				3.7605		5.1138	
significance (one-tailed)	0.0068				0.0001		0.0001	
Competency 11 (as applied to each course)								
Number of items								
Number of Subjects	NO		NO		NO		NO	
Mean	COVERAGE		COVERAGE		COVERAGE		COVERAGE	
Standard Deviation								
t-value								
significance (one-tailed)								

Table 1c

Basic Core Examination

Pretest - Posttest

Comparisons and T-Test Results

For The complete Battery (by course and Interpersonal Skills within each course)

	Educational Psychology		Foundations of Education		Survey of the Exceptional Child		Tests and Measurements	
	pre	post	pre	post	pre	post	pre	post
TOTAL TEST (as applied to each course)								
Number of items	31	31	30	30	32	32	34	34
Number of Subjects	179	163	130	163	181	163	118	163
Mean	21.68	25.41	15.62	19.61	23.61	25.71	18.91	23.21
Standard Deviation	3.27	2.82	3.57	3.24	3.03	2.60	3.84	3.10
t-value	11.2688		9.9962		6.8679		10.3723	
significance (one-tailed)	0.0001		0.0001		0.0001		0.0001	
Interpersonal Skills (as applied to each course)								
Number of items	8	8			8	8	3	3
Number of Subjects	179	163	NO		181	163	118	163
Mean	5.12	5.90	COVERAGE		5.78	6.08	2.00	2.32
Standard Deviation	1.25	1.36			1.15	1.10	0.67	0.60
t-value	5.5626				2.4255		4.2147	
significance (one-tailed)	0.0001				0.0079		0.0001	
Competency 12 (as applied to each course)								
Number of items	1	1			1	1	3	3
Number of Subjects	179	163			181	163	118	163
Mean	0.80	0.86	NO		0.94	0.93	2.00	2.32
Standard Deviation	0.40	0.35	COVERAGE		0.24	0.26	0.67	0.60
t-value	1.3392				-0.4751		4.2147	
significance (one-tailed)	0.0907				0.3175		0.0001	
Competency 13 (as applied to each course)								
Number of items	3	3			3	3		
Number of Subjects	179	163	NO		181	163		
Mean	1.91	2.25	COVERAGE		2.21	2.37	NO	
Standard Deviation	0.80	0.80			0.67	0.68	COVERAGE	
t-value	3.9392				2.1831			
significance (one-tailed)	0.0001				0.0149			

	Educational Psychology		Foundations of Education		Survey of the Exceptional Child		Tests and Measurements	
	pre	post	pre	post	pre	post	pre	post
Competency 14 (as applied to each course)								
Number of items	4	4			4	4		
Number of Subjects	179	163	NO		181	163		
Mean	2.40	2.79	COVERAGE		2.64	2.79	NO	
Standard Deviation	0.79	0.86			0.77	0.69	COVERAGE	
t-value	4.3710				1.8958			
significance (one-tailed)	0.0001				0.0294			